

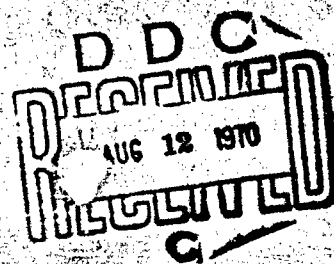
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SCHOOL OF SCIENCE

OREGON STATE UNIVERSITY

Hydrographic Data
from Oregon Waters
1969

by

Bruce Wyatt, William Gilbert,
Louis Gordon and Dennis Berstow.

Office of Naval Research
Contract N00014-67-A-0369-0007
Project NR 083-102

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Date Report No. 42

Reference 78-12

June 1970

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DEPARTMENT OF OCEANOGRAPHY

SCHOOL OF SCIENCE

OREGON STATE UNIVERSITY

Corvallis, Oregon 97331

HYDROGRAPHIC DATA FROM OREGON WATERS,

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John V. Byrne
Chairman

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INTRODUCTION

Hydrographic Data from Oregon Waters, 1969, is the tenth report during a study to determine the currents and water masses along the Oregon coast. Reports for time periods beginning in 1958 are listed in References.

DATA COLLECTING AND PROCESSING

Data were collected by Oregon State University personnel aboard the R/V YAQUINA and the R/V CAYUSE. Most of the cruises were concerned with surveying hydrographic conditions along a latitudinal track at $44^{\circ}39.1'N$ and studying the Columbia River plume.

Most stations are identified by a letter-number code. Numerals that have a BH, CH, CM, DB, NH, TH or SH prefix are the distance from shore in nautical miles. Thus NH-85 is a hydrographic station 85 miles off the coast from Newport, Oregon. All stations that have other letter prefixes were numbered sequentially with the letter prefix designating either a particular leg of that cruise or designating what work was done on that particular station. Cruise tracks are included to facilitate location of stations.

Sampling methods and analysis techniques used on the Yaquina Long Cruise - 1969 are given starting on page 7.

Explanation

Letter

DB	Off Brookings, Oregon along $42^{\circ}00.0'N$
CH	Off Coos Bay, Oregon along $43^{\circ}20.6'N$
CM	Off Cape Mears, Oregon along $45^{\circ}29.0'N$
DB	On a line between $44^{\circ}48.7'$, $124^{\circ}05.5'$ (DB-1) and $45^{\circ}48.0'$, $127^{\circ}44.0'N$
TH	Off Tillamook, Oregon along $45^{\circ}56.3'N$

Depth

Depth determinations were made by the "depth-difference" method described in the U.S. Hydrographic Office Publication 607(1955). At least once each year three to six calibration casts were made to monitor the pressure coefficients (Q) for unprotected thermometers. Depth estimates have an approximate accuracy of 1.5 percent at 750 m depth. Depths of the second cast are followed by an asterisk if two or more casts were used as a single station.

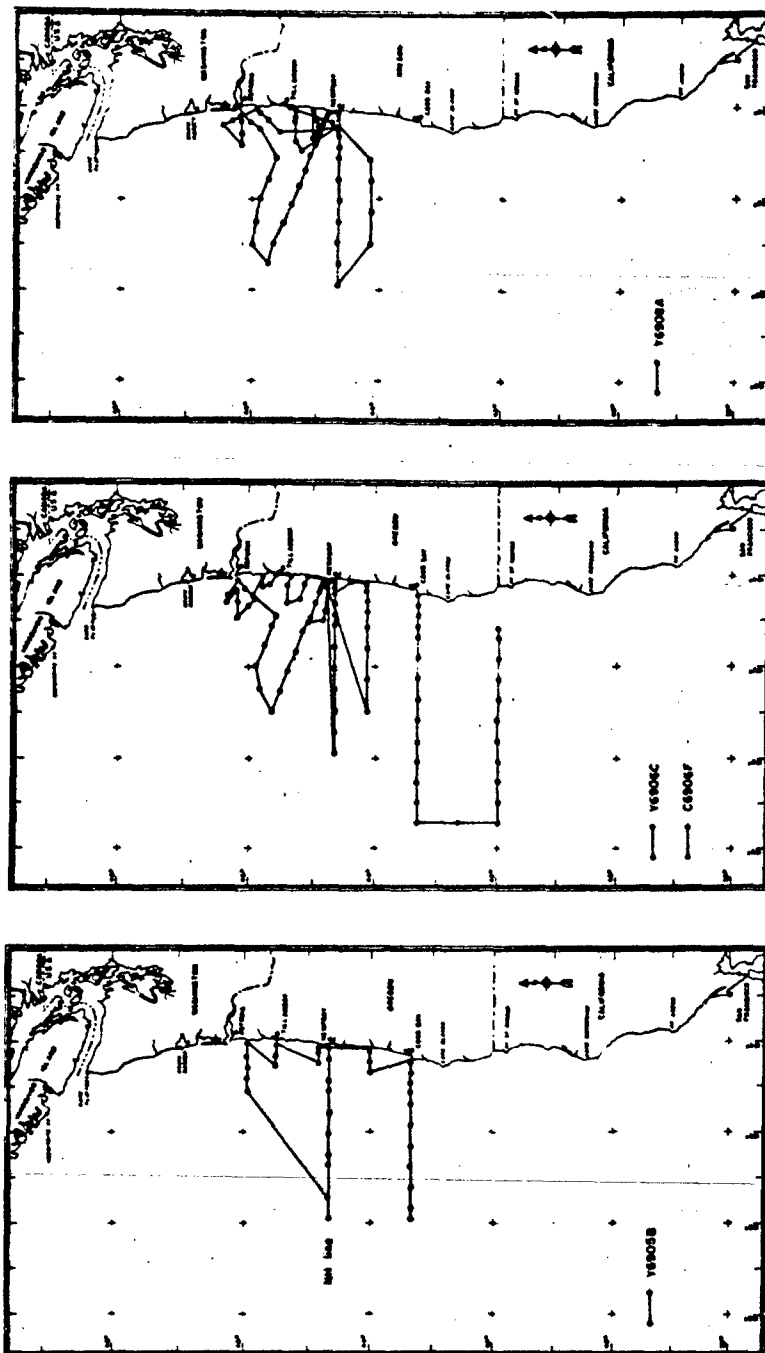


Figure 1. Positions of hydrographic stations in 1969.

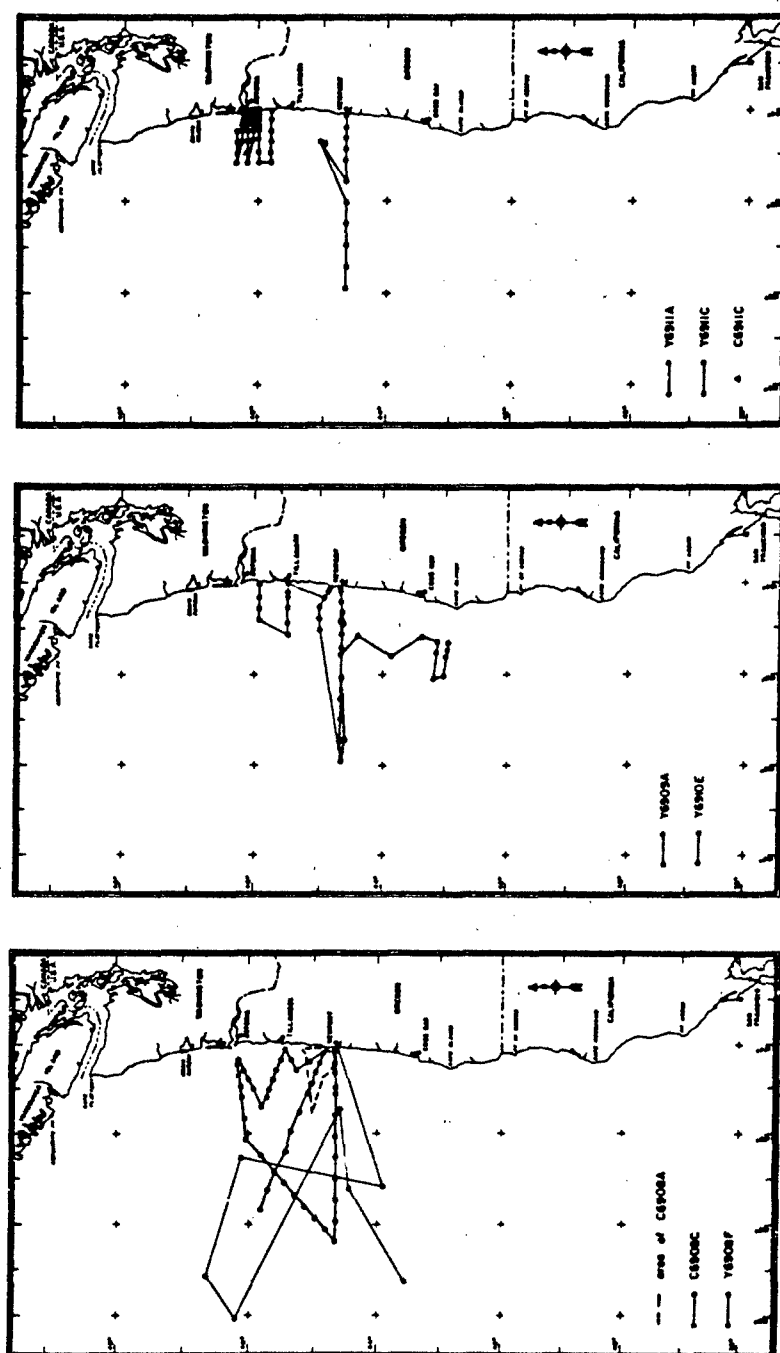


Figure 2. Positions of hydrographic stations in 1969.

Temperature

Thermometer calibrations were done at Oregon State University using the Oceanography Department's improved calibration tank. The standard was a platinum resistance thermometer calibrated by the U.S. Bureau of Standards.

The accuracy of reduced temperature readings is believed to be $\pm 0.02^{\circ}\text{C}$ for the reversing thermometers. All sampling bottles were equipped with two reversing thermometers. Those below 200m also have an unprotected thermometer for determination of thermometric depth.

Salinity

Salinity determinations were made with an inductive salinometer, Model 11, manufactured in Australia by Industria Manufacturing Engineers Pty. Ltd. and a Hytech salinometer, model 6220. The method used for the determinations was described by Brown and Hamon (1961). Substandard water was prepared from seawater that had been collected 100 miles off Oregon and stored for three months prior to use.

Precision of Chemical Data

All precisions are given as two standard deviations.

Oxygen

The modified Winkler method of oxygen analysis as described by Strickland and Parsons (1968) was employed. Precision was estimated to be ± 0.2 ml/L of dissolved oxygen.

Manual Phosphate Analysis

Phosphate was determined on a Beckman DU spectrophotometer and a Hitachi 111 spectrophotometer using a method described in the previous report (Barstow *et al.*, 1969b). This method was used to normalize phosphate values obtained using the Autoanalyzer[®]. Table 1 gives the average slopes and intercepts obtained by plotting manual versus Autoanalyzer^R results for 20% of the samples taken on the 1969 cruises beginning with C6904-C. $C_{\text{reported}} = C_{\text{auto}} \times (\text{slope}) - (\text{intercept})$.

Table 1. Slopes and Intercepts for normalization of automated phosphate analyses

<u>Cruise</u>	<u>Average Slope</u>	<u>Average Intercept</u>
C6901A	-	-
C6902C	-	-
C6903E	-	-
C6904C	0.790	0.10
Y6905B	0.778	0.04
Y6906C	0.968	0.02
C6906F	0.838	0.10
Y6908A	0.953	0.28
C6908A	0.885	0.15
C6908C	0.888	0.14
Y6909A	0.897	0.24
Y6910E	0.891	0.32

Automated Nutrient Analysis

The nitrate+nitrite analysis used on the Autoanalyzer^R is a modification of Armstrong et al. (1967). Two sample tubes, 3.40 ml/minute, were used as described by Hager et al. (1968). Precision was estimated as $\pm 8 \mu\text{M}$.

Phosphates were determined using the Grasshoff modification described previously (Barstow et al., 1969b). It is a modified ascorbic acid method of Armstrong et al (1967). Precision was estimated as $\pm 0.6 \mu\text{M}$.

Rejection of questionable nutrient data and adjustment of observed zero nutrient values

The precision and accuracy of nutrient data were quite variable from day to day. Obvious wild points have been rejected by visual inspection. In addition, a crude statistical technique was applied to the deep data (500-1000m) from stations NH65, 85, 105, 125, 145, and 165. We assumed that seasonal changes in nutrient concentrations below 500m are insignificant. Mean concentrations and average deviations from the mean were calculated for each cruise for each of the depths, 500, 600, 800 and 1000m. We rejected all nutrient values lying more than four average deviations from the mean. At some stations all four of the nutrients treated gave values more than two average deviations from their

means; all the values for that nutrient have been omitted from that station. This method gave excellent agreement with subjective, visual evaluations. A few points were eliminated on the basis of subjective evaluation, by examining relative coherence between all the nutrient values and the AOU at a given station and depth.

Because of the mechanics of our computer data processing, we add a one in the last significant figure to all observed zero values of the nutrients. Thus a zero value phosphate becomes 0.01 and a zero nitrate becomes 0.1.

pH

An Orion model 801 digital pH meter was used on all cruises for pH determinations except for Y6909A when a Beckman pH meter, model 7600, with expanded scale was used. Precisely weighed Beckman pH 7.41 buffers were employed. The method used is that of Park (1966), with values corrected to in situ temperature but not in situ pressure. Precision was ± 0.02 pH units except for Y6909A when it was ± 0.03 pH units.

Alkalinity

Alkalinity was determined on fresh samples using the method of Anderson and Robinson (1946). Precisely weighed Beckman pH 4.00 buffers were employed. Precision is about ± 0.04 milliequivalent/liter.

Computations

All hydrographic data were processed with the aid of the CDC 3300 computer. Auxiliary temperature corrections and index corrections obtained from laboratory thermometer calibrations were applied with a computer program. Property values at standard depths are determined by three-point parabolic interpolation. (Two observed property points above the standard depth and one point below were interpolated parabolically: the result was averaged with similar interpolation by using one observed point above the standard depth and two points below). The specific volume anomaly, dynamic height, and sigma-t were computed by using interpolated properties. The same computer program has been used in all Oregon State University hydrographic data reports.

Weather codes and cloud cover clouds were adopted from the National Oceanographic Data Center Manual "Processing Physical and Chemical Data from Oceanographic Stations," Publication M-2 (Rev. Aug. 1964).

YALOC 69 CHEMICAL DATA COLLECTING AND PROCESSING

Water Sampling

All water samples (except those from the bottom tripping water bottles) were collected in plastic (polypropylene) water bottles made by the National Institute of Oceanography (NIO), Wormley, Surrey, England. The order of sampling was oxygen, pH, salinity, and nutrients.

Salinity

Salinity determinations were made with a Hytech inductive salinometer, model 6220. The salinometer was standardized with substandard seawater (salinity about 35.00 ‰), and frequently checked against Copenhagen water. The average accuracy of the salinity determinations was about ± 0.003 ‰; the precision of salinity determinations at any one station was about ± 0.002 ‰.

Oxygen

The Winkler method described by Strickland and Parsons (1965) was used for samples drawn from the NIO water bottles. The precision of this method was ± 0.03 ml O_2/l .

Samples from the bottom tripping water bottles were analyzed by a modification of Carpenter's (1965) oxygen method. Calibrated 30 ml Erlenmeyer flasks were used instead of the 125 ml flasks recommended by Carpenter (1965). The concentrations of the oxygen reagents were changed so that the addition of 0.5 ml of each reagent would result in the final concentrations recommended by Carpenter (1965). Solid sodium sulfate was added to the manganous chloride reagent to decrease the solubility of oxygen in this reagent. Oxygens determined by this method agreed to within ± 0.04 ml O_2/l with oxygen measured by the method of Strickland and Parsons (1965).

Reactive Phosphate

Reactive phosphate was measured by the method described by Strickland and Parsons (1965). Precision was $\pm 0.1 \mu M$. Analyses were started within 2 hours after the nutrient samples had been drawn.

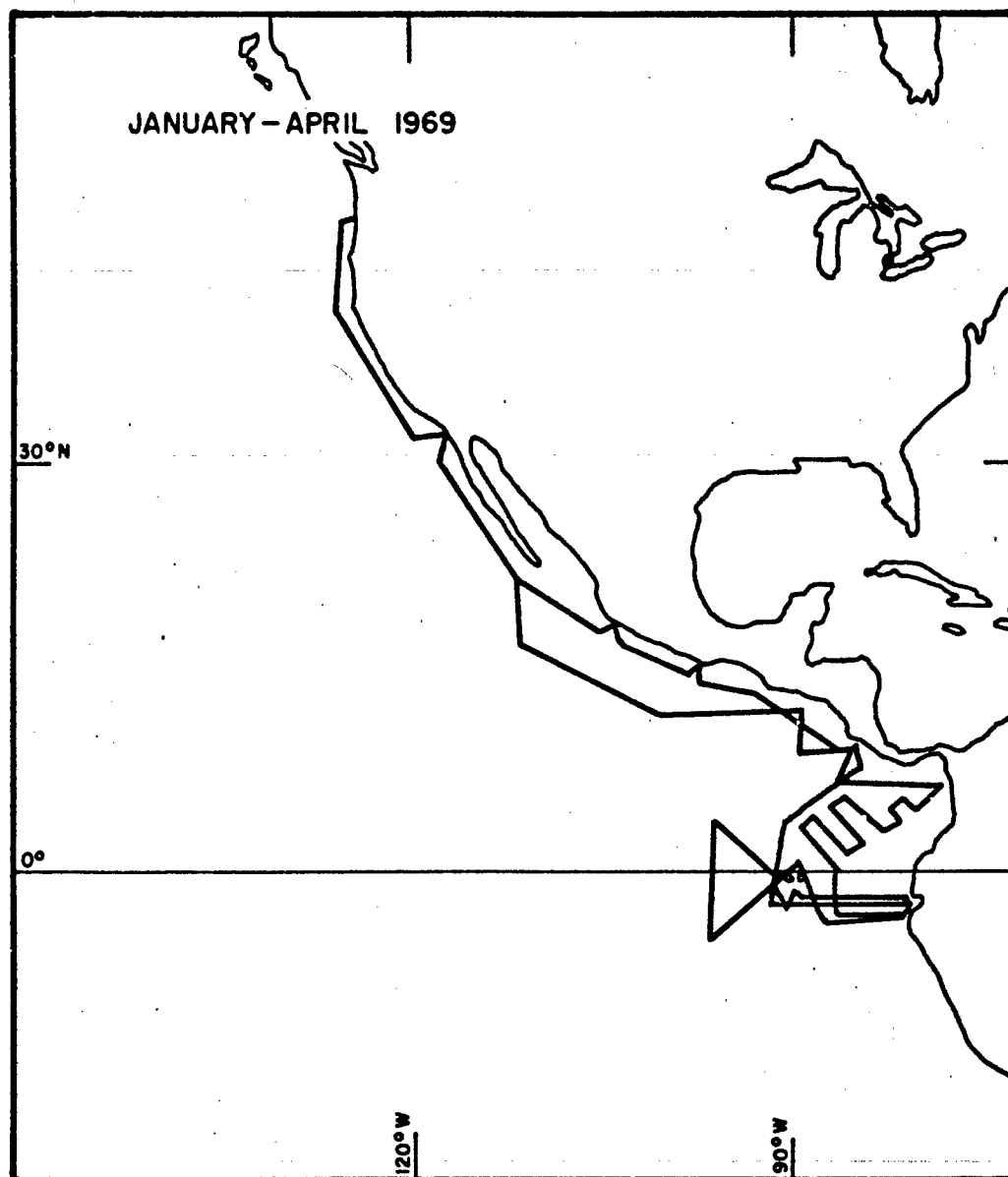


Figure 3. Cruise track for YALOC-69.

Reactive Silicate

Reactive silicate was measured by the method described by Strickland and Parsons (1965). Precision was $\pm 2 \mu\text{M}$.

Nitrate

Nitrates were measured on frozen samples using a Technicon Auto-analyser^R and the nitrate method of Hager, Gordon, and Park (1968). This method measures nitrate plus nitrite. The samples were analyzed ashore, 2 weeks after the cruise returned. Precision was $\pm 1 \mu\text{M}$.

pH

An Orion model 801 digital pH meter, with a precision of ± 0.1 mv, was used for pH measurements. The pH samples were drawn into 5 ml plastic syringes, fitted with stainless steel needles. The syringes were placed in a water bath at 25°C for 10 to 15 minutes, and the pH sample was then injected into a Beckman #46850. The precision of the pH measurements was ± 0.005 pH units. All measurements were made at $25.0 \pm 0.1^\circ\text{C}$.

The electrode was standardized with a buffer containing 0.008695 m KH_2PO_4 plus 0.03043 m Na_2HPO_4 . This buffer has $\text{pH} = 7.413$ on the NBS pH scale at 25°C . (Bates, 1964). The slope of the glass electrode response was determined from potential measurements in the 7.413 buffer and in a 0.05 m potassium hydrogen phthalate buffer which has $\text{pH} = 4.008$ at 25°C (Bates, 1964). The measured slope was 58.63 mv/pH at 25°C . The potential of each sample was read from the Orion pH meter and the pH calculated from the equation (Bates, 1964),

$$\text{pH} = 7.413 + \frac{E_{\text{sw}} - E_{7.413}}{58.63}$$

where E_{sw} and $E_{7.413}$ are the potentials measured in seawater and in the 7.413 buffer.

Alkalinity

Alkalinities were determined by a modification of the method of Anderson and Robinson (1946). To remove most of the liberated carbon dioxide, 5.998 ml of 0.009994N was added to 20.0k ml of seawater, and water saturated air bubbled through the mixture for 5 minutes. All measurements were made at $25.0 \pm 0.1^\circ\text{C}$ with an Orion model 801 digital

pH meter. The value $f_H = 0.741$ was used for the empirical coefficient in Anderson and Robinson's (1946) equation for alkalinity. This value is based on unpublished experiments made in this laboratory.

A glass electrode, saturated calomel electrode pair (Beckman #40498 and 39170), was used to measure pH standardized with a 0.05 m potassium hydrogen phthalate buffer that had pH = 4.007 (25°C) when compared with the NBS 0.05 m potassium hydrogen phthalate buffer (185-d). The slope of the glass electrode response (58.91 mv/pH) was determined from potential measurements in the two standard buffers (4.007 and 7.413). Potential measurements were converted to pH values by equation:

$$\text{pH} = 4.007 - \frac{E_{\text{sw}} - E_{4.007}}{58.91}$$

where E_{sw} and $E_{4.007}$ are the measure potentials in seawater and in the 4.007 buffer.

ACKNOWLEDGEMENTS

This work was supported by Office of Naval Research contract N00014-67-A-0369-0007, National Science Foundation grants GA1281, GA12113 and GA1435, and Bureau of Commercial Fisheries contract 14-17-0002-333. Professor Mishikawa was supported by the Universidad Autonoma de Baja California, Mexico, during his participation in Cruise Y6908A. Work at sea was under the supervision of the hydrographic group; Bruce Wyatt, Peter Kalk, James Washburn, Lyndal Brixius, and Dennis Barstow. Ronald Jones and Douglas Coughenower analyzed most of the salinity and oxygen samples.

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Table 1. Cruise dates, stations, observations, and personnel for hydrographic cruises for 1969.

CRUISE	DATES	STATIONS	OBSERVATIONS	PERSONNEL
Y6901B	17-20 Jan.	NH-3 to NH-165	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , drift bottles, BT, MWT, VNM	Bruce Wyatt, Dennis Barstow, Gary Muehlberg, Carl Fisher, Douglas Coughenower, From Clatsop Community College: Dennis Crow, David Gosser.
C6902C	11-15 Feb.	NH-3 to NH-165	Temperatures, Salinity O ₂ , PO ₄ , NO ₃ , drift bottles, BT, MWT, VNM, Secchi disc.	Dennis Barstow, Peter Kalk, Douglas Coughenower, Phil Larson, William Smoker, From Clatsop Community College: Mike Wiseman, Joseph Knutson.
C6903E	14-16 Mar. 19021 Mar.	NH-3 to NH-85 NH-65 to NH-85	Temperatures, Salinity, O ₂ , PO ₄ , NO ₃ , BT, Secchi disc, MWT, VNM, Phyto net tows.	Dennis Barstow, Peter Kalk, Douglas Coughenower, Rodney Eagle, John Butler, John Hawley, Leonard Pietrafesa
C6904C	11-12 Apr.	NH-3 to NH-25	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , BT, Secchi disc, MWT, VNM, Phyto net tows, CPA, CNA	Peter Kalk, Douglas Coughenower, Rodney Eagle, Kenneth Bowman, John Detweiler, Percy Donaghey, Richard Stewart, Allan Vogel.
Y6905B	12-21 May	NH-3 to NH-165 TN-45 to TN-3 CH-25 to CH-5 DB-18 to DB-3 SH-1 to SH-25 CH-3 to CH-165	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , BT, drift bottles, MWT, VNM, CPA, CNA	Bruce Wyatt, Douglas Coughenower, Robert Muller, Lilly Muller, Lyndel Brinlus, David Cutchin, William Smoker, David Evans, Harold O'Connors, John Hawley, Paul Longueville, Richard Tomlinson, Ruth Sullivan, From Clatsop Community College: Michael Maurice, Mel Hatfield, Dennis Crow, David Gosser.
Y6906A	1-8 June	NH-65 NH-65 N	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , BT, MWT, SWE, CPA, CNA, Secchi disk.	Peter Kalk, Michael Kyte, Jack Groelle, Hilary Findley, William Smoker, B. Hiltland, From Academic Year Institute: W. Holtmeyer, J. Kile, D. Henning, D. Karch, J. Loden, B. Deden, From Dept. of Biochemistry, Oregon State Univ.: N. Wilson, W. D. Loomis.
Y6906C	18 June-3 July	DB-5 to DB-135	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , pH, alk., BT, Secchi disk, photometer, CPA, CNA, drogue, MWT, VNM	James Mashburn, William Forster, Lawrence Small, Louis Gordon, Ronald Jones, Lyndel Brinlus, William Plank, Saul Alvarez, Douglas Coughenower, David Ball, Eric Howland, Richard Gates, Jerry Wagner, John Haidu, Peter Kalk, David Stein, Percy Donaghey, James Ward.
C6906F	27 June-3 July	CH-3 to CH-205 BH-3 to BH-205	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , BT, Drift bottles, Secchi disk, CPA, CNA, MWT, VNM, Radiation thermometer readings	Dennis Barstow, Larry Carr, Robert Wesmer, Larry Helm, Edward Siefert, Hilary Findley, Allan Vogel.
Y6908A	31 July-12 Aug.	NH-3 to NH-165 DB-1 to DB-165 A-6 to C-249	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , pH, alk., PCO ₂ , MWT, VNM, Secchi disk, photometer, CPA, CNA, Concentrations of radionuclides and trace elements.	James Mashburn, Lyndel Brinlus, Louis Gordon, William Plank, Eric Howland, David Ball, Douglas Coughenower, Richard Gates, Ronald Jones, Peter Kalk, David Stein, Edward Siefert, Allan Vogel, John Haidu, Norman Farrow, Nancy Brown, Susan VanDyke, Saul Alvarez, From School of Marine Sciences, Ensenada, Mexico, Luis Alvarez-Sanchez, Matsuo Nishikawa
C6908A	1-9 Aug.	NH-15 Suf-2 to Suf-13C NH-3A to NH-1B C14-1 to C14-5 Drog. 2,3 DB-1 to DB-65	Temperatures, Salinities, O ₂ , PO ₄ , CPA, CNA, MWT	Peter Becker, Larry Helm, John Paquognat, Hilary Findley, Phil Larson, Ronald Kay, From Dept. of Microbiology, Oregon State Univ.: Larry Jones.

*Prefix letter is ship designation: Y is R/V YAQUINA, C is R/V CATUSE. First two numbers are year. Second two numbers are month. Suffix letter is sequence of cruise within the month for each ship with A being the first cruise.

†Station identifiers explained in text.

‡Observation identifiers:

§Party Chief

ALK	alkalinity	O ₂	oxygen
BT	bathythermograph	OT	otter trawls
CNA	carbon oxygen analysis	PCO ₂	partial CO ₂
CPA	chlorophyll pigment analysis	PO ₄	phosphate
GEK	geomagnetic electro-kinetograph	SMG	Smith McIntyre grab
MWT	midwater trawl (Isaacs-Kidd 6 foot)	SiO ₄	silicate
NO ₂	nitrite	VD	Van Dorn cast
NO ₃	nitrate	VNM	vertical meter net

Cruise	DATES	STATIONS	OBSERVATIONS	PERSONNEL
C6908C	18-28 Aug.	NH-3 to NH-185 A1- to A-8 B-9 to B-13 C-14 to C-19 D-20 to D-25 E 26, 27 F-28, 29 G-30 to G-39	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , BT, drift bot- tles, photometer, CPA, CNA	Dennis Barstow, Larry Carr, Edward Siefert, Taylor Poynter, David Menzies, Hilary Findley From Classop Community College: Dennis Crow, Harold Symmonds
V6908F	17-31 Aug	1 to 7	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , pH, alk., Geological cores, current meter stations.	Robert Bunnig, Mark Jones, Charles Culberson LaVern Kule, William Bales, Gordon Ness, John Harlett, Gerald Gibney, Kenneth Scheldegger, From Univ of California at Santa Cruz: Gary Griggs From Geology Dept., Univ. of Oregon: William Orr From Dept. of Information, Oregon State U.: J. Robbins From Geology Dept., Princeton University: Gary Peniston
V6909A	9-18 Sept.	NH-3 to NH-165 A-1 to A-3 B0-1 to B0-7	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , pH, drift bottles, HUT, VMS, CPA, CNA, BT	Lyndal Brixius, Bruce Wyatt, George Beardsley, Masong Pak, Thomas Sholes, Ronald Zaneveld, William Plank, Wen Yun Lee, Peter Kall, David Stein, Ronald Jones, Hewitt Jeter, Edward Siefert, Taylor Poynter, Patrick Rasmussen, William Stout, J. Sommon From Classop Community College: Dennis Crow
V6909C	20-27 Sept.	NH-65	Temperatures, Salinities, O ₂ , PO ₄ , BT HUT, Secchi disk, OT, geological cores.	Peter Kall, Roderick Mesecar, David Stein, William Percy, Henry Vanderploeg, From Eastern Oregon College: M. Osterlow, H. Harvey, From Humboldt State College: T. Sharp, C. DeVoss, M. C. DeVoss, J. Young, C. Kall
V6910E	22-31 Oct.	NH-3 to NH165 D024 to D045 D03 to C050 TH3 to TH35	Temperatures, Salinities, O ₂ , PO ₄ , NO ₃ , pH, CPA, CNA, BT Drague, Trace metal samples, fluorometer pump casts.	James Mashburn, Lyndal Brixius, Peter Kall, Louis Gordon, David Ball, Richard Gates, Ronald Jones, Alex Adams, Saul Alvarez, Nancy Brown, Mark Jones, John Pequegnat, Sandra Sumich, From University of Washington: Greg Buchor, William Peterson. From Classop Community College: David Gosser, Rick Dornes, Kerry Wmetaleh
LEGS	DATES	STATIONS	OBSERVATIONS	PERSONNEL
Newport, Ore. to San Diego, Calif.	2-6 Jan.	YMS1 to YMS3	Temperatures, Salinities, O ₂ BT, GER, Light scattering	James Mashburn, Lyndal Brixius, George Beardsley, Randell Carder, Charles Culberson, Tom Curtin, Deryl McKeel, Masong Pak, William Plank, Thomas Sholes, Ronald Zaneveld, From University of Copenhagen, Denmark: Bo Lundgren
San Diego, Calif. to Puntarenas, Costa Rica	7-22 Jan.	YSPA to YSP21	Temperatures, Salinities, O ₂ BT, GER, Light Scattering	Same as leg 1 + Wayne Burt, Steve Tucker
Puntarenas, Costa Rica to Galapagos Islands	25 Jan. - 1 Feb.	YPT22 to YPT45	Temperatures, Salinities, O ₂ pH, BT, GER, Light Scatter- ing	Same as leg 2
Galapagos Islands to Talara, Peru	1-11 Feb.	YPT46 to YPT69	Temperatures, Salinities, O ₂ , pH, BT, GER, Light Scatter- ing	Same as leg 3
Talara, Peru to Talara, Peru	14 Feb. - 6 Mar.	YTT70 to YTT104	Temperatures, Salinities, O ₂ pH, alk., BT, PO ₄ , SiO ₄ , Magnetics, Seismic profiler, gravity measurements.	James Mashburn, Donald Heinrichs, Ross Heath, Robert Beer, George Beardsley, Robert Hodgson, Michael Gempelle, Lyndal Brixius, Chas Culberson, Deryl McKeel, William Plank, Thomas Sholes, Ronald Zaneveld, From University of Copenhagen, Denmark: Bo Lundgren From Ecuadorian Navy: Lt. Marcelo Andrade
Talara, Peru to Puntarenas, Costa Rica	7-29 Mar.	YTP105 to YTP 114	Temperatures, Salinities, O ₂ , pH, alk., BT, PO ₄ , SiO ₄ , Magnetics, Seismic profiler, gravity measurements	James Mashburn, Lyndal Brixius, Donald Heinrichs, Ross Heath, Robert Beer, Robert Hodgson, Michael Gempelle, Chas Culberson, Deryl McKeel, Robert Banks, From University of Copenhagen: Bo Lundgren
Puntarenas, Costa Rica to San Diego, Calif.	1-19 April	YPS115 to YPS121	Temperatures, Salinities O ₂ , pH, alk., SiO ₄ , NO ₃	James Mashburn, Lyndal Brixius, Robert Banks, Donald Heinrichs, Chas Culberson, Deryl McKeel
San Diego, Calif. to Newport, Oregon	21-26 April	YSH122 to YSH127	Temperatures, Salinities, O ₂ pH, alk., SiO ₄ , NO ₃	James Mashburn, Lyndal Brixius, Deryl McKeel, Chas Culberson

Table 11. Hydrographic data from the Newport line for 1969.

OBSERVED									INTERPOLATED			DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃		Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)		(m)	(°C)	(‰)		(10 ⁻³)	(dyn/m)
NM- 3 44 39.1 N 124 07.8 W DATE 18 JAN 69 0044 ACT WIRE DRY 42.9 WET 39.0 CRUISE C69014 WIND DIRECTION 06 VEL 04 KTS BAR 21 SWELL DIRECTION 10 M 04 T 10 CLOUD 7 AMT 8 WEATHER														
0	8.44	28.125	6.88	1.39			8.7		0	8.44	28.13	21.46	597.1	0
5	9.07	29.848	6.61	0.83			6.8		10	9.50	31.27	24.15	378.3	.049
15*	9.60	31.586	6.43	0.81			6.2		20	9.25	29.99	23.14	470.2	.091
20*	9.25	29.982	6.62	1.03			6.5		30	9.59	31.68	24.45	349.8	.132
30*	9.59	31.673	6.44				5.7							
NM- 5 44 39.1 N 124 10.7 W DATE 18 JAN 69 0250 ACT WIRE 05 DRY 42.0 WET 39.3 CRUISE C69018 WIND DIRECTION 08 VEL 04 KTS BAR 21 SWELL DIRECTION 10 M 06 T 09 CLOUD 7 AMT 8 WEATHER														
0	8.35	28.208	6.88	.74			5.5		0	8.35	28.21	21.44	599.4	0
7	9.20	30.838	6.52	.85			4.9		10	9.40	31.47	24.32	341.9	.068
17	9.65	32.234	6.41	.87			4.5		20	9.69	32.24	24.89	304.2	.081
27	9.72	32.313	6.39	.81			4.4		30	9.72	32.31	24.93	304.6	.112
38	9.72	32.318	6.40	.79			4.4							
48	9.72	32.322	6.40	.74			4.3							
NM- 15 44 39.2 N 124 24.9 W DATE 18 JAN 69 0441 ACT WIRE 07 DRY 43.3 WET 39.5 CRUISE C69019 WIND DIRECTION 06 VEL 07 KTS BAR 20 SWELL DIRECTION 33 M 06 T 08 CLOUD 7 AMT 7 WEATHER														
0	9.61	32.302	6.46	.73			4.7		0	9.61	32.31	24.94	303.1	0
10	9.62	32.300	6.44						10	9.63	32.30	24.94	303.5	.030
20		32.301	6.48	.79			4.2		20	9.68	32.31	24.93	304.4	.041
30	9.85	32.356	6.37	.77			4.5		30	9.85	32.36	24.94	303.2	.091
41	10.24	32.595	6.17	.77			5.4		50	10.18	32.59	25.07	291.8	.151
51	10.17	32.591	6.17	.83			5.6		75	10.39	32.75	25.16	293.9	.223
61	10.19	32.630	6.09	.86			5.7							
77	10.43	32.771	6.40	.91			6.8							
NM- 25 44 39.1 N 124 38.6 W DATE 18 JAN 69 0705 ACT WIRE 07 DRY 42.7 WET 38.0 CRUISE C69019 WIND DIRECTION 08 VEL 04 KTS BAR 18 SWELL DIRECTION 12 M 06 T 08 CLOUD 8 AMT 2 WEATHER 02														
0	9.76	32.495	6.36	.90			4.3		0	9.76	32.50	25.07	291.1	0
10	9.80	32.491	6.34	.83			4.8		10	9.80	32.50	25.06	292.1	.029
20		32.491	6.36	.82			4.7		20	9.83	32.50	25.05	292.7	.058
30	9.84	32.490	6.36	.68			3.2		30	9.84	32.50	25.05	293.2	.084
51*	9.81	32.497	6.35	.81			3.2		50	9.81	32.50	25.06	292.9	.146
77*	9.88	32.525	6.25	.88			3.8		75	9.87	32.51	25.06	293.2	.220
103*	9.83	33.211	6.92	1.54			13.5		100	9.85	33.12	25.44	248.2	.247
129*	9.21	33.665	7.56	2.20			22.2		150	8.76	33.74	26.20	185.0	.346
154*	8.68	33.747	3.53				21.5							
181*	8.36	33.875	2.92	2.48			26.5							
NM- 35 44 39.1 N 124 52.4 W DATE 18 JAN 69 1016 ACT WIRE 00 DRY 43.5 WET 40.2 CRUISE C69014 WIND DIRECTION 04 VEL 10 KTS BAR 17 SWELL DIRECTION 12 M 05 T 10 CLOUD 8 AMT 6 WEATHER														
0	9.52	32.470	6.43	.72			4.6		0	9.52	32.47	25.09	299.2	0
10	9.52	32.471	6.43	.72			3.5		10	9.52	32.48	25.09	299.3	.029
20	9.55	32.470	6.44	.78			3.1		20	9.55	32.47	25.08	299.0	.059
30	9.58	32.470	6.45	.83			2.9		30	9.58	32.47	25.08	299.6	.087
51	9.55	32.475	6.46				3.0		50	9.55	32.47	25.08	299.6	.145
77	9.58	32.479	6.44				3.2		75	9.58	32.48	25.08	299.0	.213
103	9.37	33.019	5.46	1.70			11.9		100	9.40	32.94	25.47	254.3	.246
129	9.19	33.593	7.83	1.94			21.4		150	8.50	33.68	26.19	187.0	.346
154	8.37	33.679	7.82	2.07			24.2							
181	8.35	33.912	7.73	2.40			27.3							
NM- 45 44 39.3 N 125 06.1 W DATE 18 JAN 69 1550 ACT WIRE 08 DRY 43.3 WET 39.5 CRUISE C69014 WIND DIRECTION 09 VEL 04 KTS BAR 12 SWELL DIRECTION 12 M 05 T 08 CLOUD 7 AMT 6 WEATHER														
0	9.69	32.398	6.37	.71			3.4		0	9.69	32.40	25.00	297.2	0
10	9.69	32.400	6.39				5.5		10	9.69	32.40	25.00	297.2	.030
20	9.71	32.392	6.41	.77			5.4		20	9.71	32.40	25.00	298.2	.049
30	9.74	32.394	6.40	.67			4.7		30	9.74	32.40	24.99	298.7	.089
51	9.81	32.430	6.34	.63					50	9.80	32.43	25.00	298.0	.143
78	10.46	32.812	6.07	.98			7.2		75	10.40	32.76	25.16	283.5	.222
103	9.48	33.288	6.63	1.53			16.5		100	10.08	33.23	25.58	243.7	.248
129	9.01	33.714	7.46	1.95			22.6		150	8.71	33.85	26.24	177.5	.343
154	8.67	33.854	7.82	2.18			26.4		200	8.34	33.95	26.42	165.4	.473
207	8.30	33.951	7.45	2.35			27.7		250	7.87	33.99	26.53	154.4	.544
259	7.77	33.993	7.47						300	7.37	34.01	26.61	148.8	.635
311	7.26	34.009	7.34	2.44			29.4		400	6.10	34.00	26.78	133.0	.777
413	5.95	33.999	7.10						500	5.51	34.09	26.92	120.4	.866
514	5.48	34.114	7.09	2.45			30.7		600	4.94	34.19	27.07	107.6	1.018
620	4.79	34.207	.79	1.38			36.3							

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(10 ⁻³)	(dyn/cm)
NM-65 44 39.1 N 125 34.0 W DATE 18 JAN 69 2014 ACT WIRE 04 DRY 44.3 WET 40.9 CRUISE C69019													
WIND DIRECTION 07 VEL 04 KTS BAR 10 SWELL DIRECTION 13 M 06 T 04 CLUD 6 AMT 7 WEATHER													
0	9.73	32.521	4.39	.99			4.5	0	9.73	32.53	25.09	284.7	0
10	9.74	32.523	4.39	.84			5.4	10	9.74	32.53	25.09	284.9	.029
30*	9.70	32.524	4.42	.83			5.5	20	9.72	32.52	25.04	284.4	.054
50*	10.36	32.432	5.71	1.10			9.5	30	9.70	32.53	25.10	284.4	.047
76*		33.413	5.04	1.46			14.8	50	10.36	32.94	25.31	283.1	.142
103*	9.33	33.613	1.69	2.16			22.0	75	10.14	33.40	25.70	231.9	.205
127*	8.78	31.748	3.24				24.8	100	9.45	33.40	25.98	204.4	.260
154*	8.36	33.909	2.84	2.29			26.9	150	8.42	33.70	26.37	189.5	.154
205*	7.39	33.941	2.93	2.35			27.6	200	7.48	33.94	26.54	153.9	.435
309*	6.76	34.072	1.71	2.94			31.7	250	7.03	34.00	26.65	141.9	.409
409*	5.86	34.100	1.13	3.15			34.2	300	6.78	34.06	26.74	134.8	.579
615*	4.76	34.194	.81	3.51			36.6	400	5.94	34.10	26.88	124.4	.710
821*	4.16	34.306	.36	3.61			37.3	500	5.28	34.14	26.99	111.8	.829
1025*	3.58	34.417	.76	3.58			38.1	600	4.81	34.19	27.08	104.0	.939
1230*	3.08	34.475	.56	3.58			38.3	700	4.45	34.24	27.16	92.0	1.041
1433*	2.68	34.522	.80	3.54			38.3	800	4.21	34.29	27.23	47.5	1.177
1640*	2.34	34.558	1.06	3.47			38.2	1000	3.65	34.40	27.38	79.5	1.409
								1200	3.15	34.47	27.47	70.1	1.454
								1500	2.56	34.53	27.58	60.3	1.453

NM-85 44 39.0 N 126 02.0 W DATE 19 JAN 69 0025 ACT WIRE 05 DRY 44.0 WET 40.0 CRUISE C69019													
WIND DIRECTION 10 VEL 03 KTS BAR 05 SWELL DIRECTION 34 M 05 T 11 CLUD 8 AMT 7 WEATHER													
0	8.58	32.323	6.63	0.77			3.3	0	8.58	32.33	25.12	284.2	0
10	8.60	32.324	6.56	0.79			3.1	10	8.60	32.33	25.12	284.4	.029
30	8.61	32.327	6.56					20	8.60	32.33	25.11	284.9	.057
50	8.66	32.333	6.54	0.77			3.3	30	8.61	32.33	25.12	284.7	.086
76	8.05	32.891	5.51	1.49			13.0	50	8.66	32.34	25.11	287.7	.143
104	8.15	33.443	4.33	1.84			21.2	75	8.12	32.81	25.57	244.3	.210
128	8.01	33.697	3.72	1.99			23.3	100	8.12	33.37	26.00	203.8	.266
154	7.70	33.831	3.40	2.13			26.1	150	7.75	33.82	26.41	145.0	.458
206	7.08	33.943	2.67	2.32			30.3	200	7.15	33.94	26.59	149.4	.437
310	6.15	34.015	1.73	2.44				250	6.65	33.99	26.70	139.4	.509
411	5.49	34.063	1.14	2.94			32.3	300	6.22	34.01	26.77	133.0	.577
618	4.67	34.211	.72	2.96			32.8	400	5.55	34.06	26.89	122.7	.705
825	4.07	34.336	.26				40.4	500	5.09	34.12	27.00	112.5	.823
1030	3.47	34.420	.61	3.61			40.9	600	4.72	34.20	27.10	104.4	.931
1236	3.04	34.474	.58	3.45			41.1	700	4.42	34.26	27.18	96.5	1.031
								800	4.14	34.32	27.26	89.5	1.124
								1000	3.55	34.41	27.39	78.0	1.292
								1200	3.10	34.47	27.48	69.7	1.439

NM-105 44 39.0 N 126 30.0 W DATE 19 JAN 69 0456 ACT WIRE 03 DRY 42.5 WET 39.0 CRUISE C69019													
WIND DIRECTION 33 VEL 05 KTS BAR 02 SWELL DIRECTION 33 M 04 T 09 CLUD 7 AMT 2 WEATHER													
0	8.33	32.296	6.62	.68			2.4	0	8.33	32.30	25.14	284.6	0
10	8.32	32.296	6.62	.71			2.3	10	8.32	32.30	25.14	284.6	.028
30	8.34	32.291	6.63	.77			3.0	20	8.33	32.29	25.13	285.4	.057
31*	8.32	32.291	6.63					30	8.34	32.30	25.13	285.5	.085
51*	8.33	32.289	6.63				3.0	50	8.32	32.29	25.13	286.0	.143
77*	8.34	33.074	5.09	1.12			9.6	75	8.34	33.00	25.68	233.5	.208
104*	8.24	33.575	4.14	2.06			22.0	100	8.26	33.52	26.10	194.3	.261
129*	7.88	33.769	3.44	2.27			24.7	150	7.86	33.84	26.41	155.7	.351
154*	7.02	33.848	3.19				24.3	200	7.39	33.95	26.56	151.7	.430
207*	7.33	33.961	2.44	2.56			30.5	250	6.93	34.00	26.67	142.7	.504
311*	6.38	34.014	2.23	2.89			34.5	300	6.48	34.01	26.74	134.2	.574
413*	5.62	34.070	1.16					400	5.71	34.06	26.88	124.3	.704
620*	4.72	34.208	.40	3.53			39.9	500	5.17	34.13	26.99	111.4	.823
827*	4.06	34.314	.26	3.51			40.3	600	4.78	34.19	27.09	105.3	.932
1032*	3.50	34.398	.35	3.49			40.3	700	4.45	34.25	27.17	97.7	1.033
1239*	3.04	34.460	.44	3.08			37.3	800	4.14	34.30	27.24	91.1	1.128
1446*	2.64	34.519	.85	3.15			34.7	1000	3.58	34.39	27.37	80.1	1.294
1652*	2.26	34.556	1.47	3.46			40.3	1200	3.12	34.45	27.46	71.2	1.450
								1500	2.54	34.53	27.58	60.3	1.447

NM-125 44 39.2 N 126 57.6 W DATE 19 JAN 69 0916 ACT WIRE 12 DRY 43.0 WET 40.0 CRUISE C69019													
WIND DIRECTION 34 VEL 15 KTS BAR 01 SWELL DIRECTION 33 M 05 T 04 CLUD 8 AMT 7 WEATHER													
0	8.42	32.455	6.48	.79			4.6	0	8.42	32.46	25.25	274.1	0
10	8.45	32.451	6.51	.82			3.9	10	8.45	32.46	25.24	274.9	.027
30	8.43	32.455	6.48				3.5	20	8.44	32.45	25.24	275.2	.055
51	8.49	32.454	6.52	.86			3.6	30	8.43	32.46	25.24	274.6	.082
78	8.28	33.664	3.65					50	8.49	32.45	25.23	274.1	.137
103	7.98	33.815	3.07	2.04			23.1	75	8.31	33.52	26.09	194.4	.196
128	7.73	33.878	2.63					100	8.02	33.80	26.35	170.3	.262
154	7.54	33.917	2.36	2.75			31.1	150	7.57	33.91	26.51	154.2	.324
206	7.17	33.965	2.14				31.2	200	7.21	33.96	26.60	148.5	.400
309	6.68	34.013	1.83	3.08			32.6	250	6.93	33.99	26.66	143.3	.473
411	6.30	34.047	1.58	3.14			33.9	300	6.71	34.01	26.70	139.4	.543
617	5.11	34.154	1.05	3.44			37.8	400	6.34	34.04	26.78	133.8	.680
823	4.24	34.282	.30	3.64			39.5	500	5.80	34.09	26.89	124.0	.804
1028	3.53	34.407	.72	3.65			39.9	600	5.21	34.15	27.00	114.2	.928
1234	3.06	34.464	.50	3.74			40.2	700	4.73	34.21	27.10	104.4	1.037
								800	4.31	34.27	27.20	95.0	1.137
								1000	3.62	34.39	27.37	80.1	1.311
								1200	3.12	34.46	27.47	70.4	1.444

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D	T	S	O ₂	PO ₄	pH	AM	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(mg/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
NM-145 44 39.1 M 127 25.4 M DATE 19 JAN 69 1011 OCT WIRE 15 DRY 41.2 WET 37.0 CRUISE C69019													
WIND DIRECTION 33 VEL 17 KTS BAR 02 SWELL DIRECTION 13 M 09 T 09 CLOUD 6 AMT 7 WEATHER													
0	8.44	32.407	8.52	.69			2.0	0	8.44	32.41	25.21	277.4	0
10	8.44	32.407	8.52	.69			2.0	10	8.44	32.41	25.21	278.1	.028
30	8.47	32.408	8.55					20	8.45	32.41	25.20	278.6	.056
51	8.53	32.444	8.68	.96			3.2	30	8.47	32.41	25.20	278.7	.083
78	8.58	33.002	8.82				11.8	50	8.53	32.44	25.21	277.8	.134
104	8.00	33.536	8.15	1.75			15.6	75	8.57	32.93	25.49	282.7	.204
128	7.86	33.772	3.58	2.16			19.2	100	8.09	33.46	26.08	196.2	.259
154	7.75	33.882	7.16	2.18			21.6	150	7.77	33.87	26.45	182.0	.369
204	7.33	33.961	7.52	2.76				200	7.39	33.96	26.57	151.1	.427
304	6.39	34.032	1.76	3.14			28.4	250	6.47	34.00	26.67	142.1	.500
411	5.73	34.072	1.26				30.0	300	6.47	34.03	26.75	134.0	.549
646	4.85	34.093	.77	3.21			34.0	400	5.79	34.07	26.87	124.0	.699
809	4.20	34.270	.57					500	5.26	34.07	26.94	114.5	.821
1007	3.41	34.391	.31	3.38			35.7	600	4.42	34.08	27.00	113.0	.937
1203	3.10	34.444	.44	3.56			36.5	700	4.48	34.14	27.07	106.8	1.047
								800	4.21	34.23	27.18	97.4	1.149
								1000	3.62	34.39	27.37	80.3	1.327
								1200	3.11	34.45	27.46	71.1	1.478

NM-184 44 39.1 M 127 54.9 M DATE 19 JAN 69 2103 OCT WIRE 08 DRY 41.0 WET 31.5 CRUISE C69019
WIND DIRECTION 33 VEL 04 KTS BAR 02 SWELL DIRECTION 12 M T 09 CLOUD 6 AMT 7 WEATHER

0	8.57	32.411	8.52	1.01			3.6	0	8.57	32.42	25.19	279.4	0
10	8.56	32.408	8.54	1.07			7.7	10	8.56	32.41	25.19	279.7	.028
30	8.54	32.412	8.53				3.6	20	8.55	32.41	25.19	279.9	.046
51	8.58	32.408	8.53	1.23			1.9	30	8.55	32.42	25.19	279.5	.084
78	8.43	32.989	8.18	1.63			10.7	50	8.58	32.41	25.18	279.8	.140
104	8.10	33.544	8.09	2.39			21.8	75	8.44	32.92	25.40	281.4	.205
128	7.92	33.749	7.79	2.45			23.4	100	8.15	33.48	26.09	194.7	.260
155	7.72	33.894	7.28	2.67			26.1	150	7.76	33.87	26.45	181.9	.369
207	7.16	33.944	2.67	3.04			29.4	200	7.24	33.95	26.59	149.1	.427
311	6.41	34.000	1.60	3.50			34.1	250	6.46	33.99	26.67	142.6	.500
413	6.46	34.056	1.52	3.76			35.9	300	6.50	34.00	26.73	137.4	.570
620	6.49	34.201	.51	3.72			40.0	400	5.14	34.05	26.93	118.5	.699
827	6.00	34.323	.31				40.8	500	4.56	34.12	27.05	107.0	.811
1033	3.41	34.419	.31				41.5	600	4.54	34.19	27.11	103.0	.916
1240	2.97	34.445	.50	3.75			41.7	700	4.31	34.25	27.19	94.1	1.015
								800	4.07	34.31	27.26	84.8	1.108
								1000	3.50	34.41	27.39	77.7	1.275
								1200	3.04	34.46	27.48	69.5	1.422

NM-3 44 39.3 M 124 07.5 M DATE 12 FEB 69 0104 OCT WIRE 00 DRY 48.0 WET 44.5 CRUISE C69027
WIND DIRECTION 30 VEL 07 KTS BAR 11 SWELL DIRECTION 23 M 07 T 09 CLOUD 6 AMT 7 WEATHER

0	8.79	27.834	7.08	1.11			11.1	0	8.79	27.84	21.59	623.4	0
10	8.60	30.896	8.77	1.08			8.5	10	8.60	30.90	24.00	392.8	.051
20	8.69	31.469	6.71	.97			7.2	20	8.69	31.47	24.44	351.5	.088
30	8.64	31.834	8.69	1.20			7.1	30	8.64	31.84	24.57	338.4	.123

NM-5 44 39.4 M 124 10.4 M DATE 12 FEB 69 0311 OCT WIRE 00 DRY 55.5 WET 48.0 CRUISE C69027
WIND DIRECTION 34 VEL 07 KTS BAR 11 SWELL DIRECTION 23 M 07 T 09 CLOUD 6 AMT 7 WEATHER

0	8.65	26.930	7.04	.97			15.9	0	8.65	26.94	20.90	689.3	0
10	8.72	32.013	8.62				6.8	10	8.72	32.02	24.46	311.4	.050
20	8.80	32.226	8.57	.89			5.8	20	8.80	32.23	25.01	294.8	.080
30	8.93	32.376	8.52	.97			5.7	30	8.93	32.38	25.11	287.7	.110
40	9.05	32.477	8.46					50	9.05	32.48	25.17	282.1	.147
50	9.05	32.477	8.46	1.33			6.2						

NM-15 44 39.0 M 124 24.0 M DATE 12 FEB 69 0541 OCT WIRE 04 DRY 48.0 WET 44.5 CRUISE C69027
WIND DIRECTION 25 VEL 08 KTS BAR 10 SWELL DIRECTION 23 M 06 T 09 CLOUD 6 AMT 7 WEATHER

0	9.49	32.728	8.43	1.09			7.8	0	9.49	32.73	25.29	269.4	0
10	9.48	32.726	8.45	1.02			7.3	10	9.48	32.73	25.29	269.8	.027
20	9.49	32.727	8.44	1.15			7.3	20	9.49	32.73	25.29	270.0	.054
30	9.48	32.740	8.40					30	9.48	32.75	25.30	269.0	.081
40	9.47	32.753	8.32	1.24			7.5	50	9.48	32.77	25.32	267.7	.115
50	9.48	32.763	8.29	1.25			7.7						
60	9.49		8.29										
74	9.49	32.764	8.29				8.0						

NM-24 44 39.0 M 124 34.7 M DATE 12 FEB 69 0920 OCT WIRE 00 DRY 48.5 WET 42.0 CRUISE C69027
WIND DIRECTION 25 VEL 07 KTS BAR 10 SWELL DIRECTION 27 M 04 T 09 CLOUD 04 AMT 01 WEATHER

0	9.27	32.634	8.44	1.14			8.0	0	9.27	32.64	25.25	273.2	0
10	9.25	32.631	8.46	.85			6.6	10	9.25	32.64	25.26	273.3	.027
20	9.28	32.633	8.44	.96			4.9	20	9.28	32.64	25.25	273.8	.055
30	9.29	32.642	8.45				7.1	30	9.29	32.65	25.26	273.4	.082
40	9.28	32.647	8.44	1.02			6.9	50	9.29	32.68	25.28	271.3	.116
50	9.23	32.674	8.41	1.09			7.0	75	9.51	32.78	25.33	267.4	.204
60	9.42	32.732	8.37				7.5	100	9.54	32.90	25.42	259.4	.270
74	9.41	32.774	8.34	1.14			8.4	150	9.79	33.40	25.74	227.4	.391
100	9.54							200	9.04	33.44	25.33	147.2	.498
125	9.74	33.103	8.24	1.35			12.4						
150	9.74	33.104	8.27	1.46			14.9						
175	9.30	33.444	1.72	1.84			22.5						
201	9.34	33.653	1.47	1.84			23.1						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^5$)	(dyn/cm)
NM- 35 44 39.0 N 124 52.8 W DATE 12 FEB 69 1141 ACT WIRE 00 DRY 46.0 WET 47.0 CRUISE C6902C													
WIND DIRECTION 23 VEL 04 KTS BAR 10 SWELL DIRECTION 25 M 04 T 09 CLOUD 04 AMT 03 WEATHER													
0	9.38	32.696	6.44	.81			6.2	0	9.38	32.70	25.29	270.3	0
10	9.35	32.687	6.44	.84			6.4	10	9.35	32.69	25.28	270.7	.127
20	9.40	32.689	6.45				6.6	20	9.40	32.69	25.28	271.4	.154
30	9.43	32.685	6.45	.87			6.7	30	9.43	32.69	25.27	272.4	.181
50	9.44	32.725	6.33	.89			6.9	50	9.44	32.73	25.30	274.9	.136
75	9.68	32.978	6.96	1.37			9.1	75	9.68	32.98	25.46	255.3	.201
100	9.87	33.111	6.50				11.4	100	9.87	33.12	25.54	258.1	.244
126	9.87	33.294	6.83	1.39			13.9	126	9.87	33.30	25.54	258.1	.244
151	9.80		6.14					150	9.81	33.50	25.84	270.3	.181
176	9.14	33.726	3.36	1.40				200	8.35	33.50	26.38	169.2	.276
202	8.29	33.911	2.69					250	7.40	33.49	26.59	149.7	.454
227	7.67	33.960	2.60					300	6.92	34.02	26.68	141.9	.431
252	7.38	33.991	2.38										
303	6.89	34.016	2.09										
353		34.017	2.04										

NM- 45 44 39.2 N 125 06.3 W DATE 12 FEB 69 1533 ACT WIRE 04 DRY 43.0 WET 42.0 CRUISE C6902C													
WIND DIRECTION 33 VEL 12 KTS BAR 11 SWELL DIRECTION 28 M 07 T 09 CLOUD 04 AMT 04 WEATHER													
0	8.71	32.646	6.45	.86			5.2	0	8.71	32.65	25.35	264.0	0
10	8.70	32.644	6.48	.88			6.1	10	8.70	32.65	25.35	264.2	.126
30	8.75	32.648	6.48	.90			6.2	20	8.73	32.65	25.35	264.4	.153
50	9.55	32.928	6.13	1.00			8.7	30	8.75	32.65	25.35	264.9	.175
75	9.95	33.360	6.05	1.46			15.3	50	9.95	32.93	25.44	264.5	.131
100	9.69	33.626	3.75	1.84			21.1	75	9.65	33.37	25.71	231.7	.192
126	9.20	33.734	3.30	2.14			23.7	100	9.69	33.63	25.96	207.9	.247
151	8.83	33.834	2.90	2.28			26.0	150	8.84	33.83	26.25	180.4	.344
202	8.24	33.918	2.89					200	8.26	33.92	26.41	164.4	.431
252	7.59	33.973	2.65	2.53			28.8	250	7.62	33.97	26.55	154.1	.511
303	6.94	33.984	2.19				31.9	300	6.97	33.99	26.65	144.4	.586
353	6.60	34.062	1.72					400	5.86	34.02	26.82	129.5	.723
404	5.80	34.014	1.73	2.91			36.6	500	5.30	34.10	26.96	116.4	.846
505	5.27	34.113	.89	3.33			39.9						

NM- 65 44 39.0 N 124 34.2 W DATE 12 FEB 69 2015 ACT WIRE 20 DRY 47.5 WET 43.2 CRUISE C6902C													
WIND DIRECTION 30 VEL 15 KTS BAR 14 SWELL DIRECTION 28 M 09 T 10 CLOUD 8 AMT 5 WEATHER													
0	8.34	32.581	6.55	.90			5.2	0	8.34	32.59	25.36	263.4	0
10	8.31	32.579	6.58	1.22			5.1	10	8.31	32.58	25.36	263.4	.126
29	8.36	32.576	6.56				6.0	20	8.33	32.58	25.35	264.7	.153
48	8.34	32.576	6.54					30	8.35	32.58	25.35	264.4	.179
73	9.40	33.340	6.63	1.77			15.4	50	8.42	32.63	25.38	262.0	.132
98	9.32	33.530	6.09	1.86			20.8	75	9.39	33.37	25.80	222.4	.192
124	8.08	33.723	3.65				23.9	100	9.22	33.55	25.97	204.9	.246
144	8.04	33.871	3.08	2.15			26.3	150	8.04	33.88	26.41	185.3	.339
197	7.79	33.975	2.49	2.25			29.1	200	7.74	33.98	26.53	154.7	.419
297	6.22	34.000	1.96	2.49			32.4	250	6.97	34.00	26.66	143.1	.493
395	5.95	34.109	1.10	2.80			34.0	300	6.20	34.00	26.77	133.5	.563
593	4.65	34.200	.46					400	5.92	34.11	26.89	123.2	.691
790	4.18	34.322	.25					500	5.27	34.17	27.01	111.7	.808
988	3.59	34.406	.35	3.04			37.2	600	4.63	34.20	27.11	102.7	.915
1186	3.18	34.457	.48	3.61			43.2	700	4.35	34.27	27.19	95.5	1.014
								800	4.15	34.33	27.26	89.4	1.107
								1000	3.56	34.41	27.39	78.1	1.274
								1200	3.15	34.46	27.47	70.7	1.423

NM- 85 44 39.1 N 124 02.1 W DATE 13 FEB 69 0810 ACT WIRE 10 DRY 44.0 WET 41.0 CRUISE C6902C													
WIND DIRECTION 25 VEL 10 KTS BAR 16 SWELL DIRECTION 29 M 09 T 10 CLOUD 8 AMT 4 WEATHER													
0	8.30	32.637	6.54	.81			6.1	0	8.30	32.64	25.41	258.4	0
10	8.29	32.632	6.54	.82			5.1	10	8.29	32.64	25.40	259.2	.126
29	8.14	32.622	6.58	.72			5.5	20	8.20	32.63	25.41	258.4	.152
48	8.32	32.622	6.56	.88			7.0	30	8.15	32.62	25.41	258.4	.178
73	8.37	33.029	6.31	1.00			9.4	50	8.35	32.64	25.40	259.4	.129
97	8.13	33.621	3.84					75	8.36	33.08	25.74	227.4	.190
122	7.79	33.745	3.64	1.50			17.3	100	8.09	33.65	26.23	182.3	.242
147	7.49	33.866	3.31	1.53			19.2	150	7.45	33.87	26.49	157.6	.327
196	6.91		2.92				30.1	200	6.85	33.95	26.64	144.1	.402
294	5.81	33.966	2.17	1.99				250	6.23	33.94	26.71	138.1	.473
391	5.83	34.115	.99	2.44				300	5.81	33.98	26.74	130.4	.540
489	4.70	34.210	.47	3.09			39.5	400	5.80	34.12	26.91	121.1	.666
786	4.19	34.319	.31					500	5.32	34.18	27.02	111.1	.782
982	3.64	34.404	.35					600	4.75	34.22	27.11	101.3	.889
1178		34.462	.48	3.26			42.5	700	4.42	34.27	27.19	95.9	.948
								800	4.15	34.33	27.26	89.4	1.081
								1000	3.59	34.41	27.39	78.4	1.244
								1200	3.15	34.47	27.47	70.1	1.497

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NM-104 44 39.0 N 126 30.0 W DATE 11 FEB 69 1313 GCT WIRE 00 DRY 48.0 WET 44.0 CRUISE C69020 WIND DIRECTION 23 VEL 06 KTS BAR 10 SWELL DIRECTION 29 H 06 T 10 CLUD 8 AMT 4 WEATHER													
0	7.69	32.407	6.79	.76			4.7	0	7.69	32.41	25.31	267.4	0
10	7.73	32.427	6.77	.75			4.7	10	7.73	32.43	25.32	266.7	.727
30	8.10	32.545	6.69	.80			5.3	20	7.91	32.49	25.34	265.3	.163
50	8.09	32.555	6.65	.80			5.7	30	8.10	32.55	25.36	263.3	.083
75	8.08	32.770	6.04	1.06			9.3	50	8.09	32.56	25.37	262.6	.132
99	7.85	33.492	4.10	1.60			18.7	75	8.08	32.77	25.54	246.8	.195
125	7.43	33.667	4.23	1.64			19.3	100	7.83	33.51	26.15	189.4	.250
150	7.17	33.758	4.21	1.80			23.1	150	7.18	33.76	26.45	161.9	.134
201	6.46		7.41	2.08			28.2	200	6.67	33.88	26.61	147.3	.416
302	6.00	33.984	1.92	2.54			34.7	250	6.32	33.95	26.71	137.9	.487
402	5.24	34.716	1.41	2.84			37.5	300	6.01	33.98	26.78	132.5	.556
604	4.70	34.204	.64	3.19			41.9	400	5.25	34.02	26.89	122.2	.682
806	3.48	34.317	.24					500	4.91	34.10	27.00	112.1	.794
1008	3.45	34.410	.35	3.20			41.3	600	4.71	34.20	27.10	104.0	.907
1209	2.99	34.479	.52				40.0	700	4.36	34.26	27.19	95.8	1.007
								800	4.00	34.31	27.27	85.6	1.099
								1000	3.47	34.41	27.39	77.3	1.265
								1200	3.01	34.48	27.49	67.9	1.410
NM-125 44 38.9 N 126 58.0 W DATE 13 FEB 69 1827 GCT WIRE 05 DRY 45.0 WET 41.5 CRUISE C69020 WIND DIRECTION 16 VEL 08 KTS BAR 13 SWELL DIRECTION 29 H 08 T 10 CLUD 0 AMT 4 WEATHER													
0	7.41	32.359	6.81	.79			3.8	0	7.42	32.36	25.32	267.4	0
10	7.41	32.360	6.80	.75			4.3	10	7.42	32.36	25.32	267.4	.727
30	7.49	32.383	6.76	.78			4.5	20	7.45	32.37	25.32	267.5	.053
50	8.15	32.589	6.54	.84			5.7	30	7.49	32.39	25.32	267.0	.750
75	8.25	33.418	4.66	1.99			21.8	50	8.15	32.59	25.39	261.0	.133
100	8.10	33.719	7.49	2.16			25.6	75	8.25	33.42	26.03	201.0	.141
125	7.84	33.855	2.90				27.7	100	8.10	33.72	26.28	177.0	.234
150	7.44	33.901	7.70	2.30			30.3	150	7.85	33.91	26.49	157.7	.122
201	7.27	33.962	17	2.46			33.0	200	7.28	33.96	26.59	140.3	.304
302	6.53	34.011	42	2.81			35.5	250	6.91	33.99	26.66	147.7	.471
402	5.90	34.047	.36	2.89			36.0	300	6.54	34.01	26.73	137.3	.541
604	4.94	34.166	.72				40.1	400	5.91	34.05	26.84	127.9	.676
806	4.16	34.309	.31	3.24			40.9	500	5.40	34.10	26.94	115.1	.797
1007	3.52	34.408	.39					600	4.96	34.16	27.04	109.7	.911
1208	3.03	34.471	.48	3.44			42.3	700	4.55	34.24	27.15	100.2	1.016
								800	4.18	34.30	27.24	91.4	1.111
								1000	3.54	34.41	27.39	75.2	1.261
								1200	3.05	34.47	27.48	68.0	1.429
NM-145 44 39.1 N 127 25.5 W DATE 13 FEB 69 2154 GCT WIRE 00 DRY 45.0 WET 42.5 CRUISE C69020 WIND DIRECTION 16 VEL 11 KTS BAR 10 SWELL DIRECTION 16 H 02 T 02 CLUD 8 AMT 4 WEATHER													
0	7.78	32.514	6.59	.73			3.1	0	7.79	32.52	25.39	269.8	0
10	7.76	32.514	6.72	.53			3.0	10	7.77	32.52	25.39	269.7	.726
30	7.78	32.513	6.71	.82			5.6	20	7.77	32.51	25.38	261.2	.052
50	8.09	32.865	5.77	1.18			11.5	30	7.79	32.52	25.38	261.2	.174
75	8.24	33.449	7.71	2.03			24.8	50	8.09	32.87	25.42	233.4	.124
100	7.96	33.422	7.10	2.35			26.8	75	8.24	33.45	26.21	183.8	.161
126	7.78	33.863	2.80					100	7.96	33.83	26.38	167.3	.225
151	7.53	33.932	2.42	2.51			31.2	150	7.54	33.93	26.53	154.5	.306
202	7.18	33.971	2.24	2.55			31.8	200	7.19	33.97	26.61	147.4	.421
303	6.70	34.019	1.86					250	6.94	34.00	26.66	142.8	.454
404	6.20	34.049	1.45	2.81			31.5	300	6.71	34.12	26.71	139.0	.524
606	5.02	34.169	.64					400	6.22	34.05	26.80	131.9	.659
808	4.32	34.279	.32				41.4	500	5.62	34.10	26.92	120.9	.786
1010	3.59	34.406	.33	3.64			43.1	600	5.05	34.16	27.03	115.8	.902
1212	3.15	34.463	.48	3.64			41.9	700	4.67	34.22	27.12	102.7	1.008
								800	4.34	34.27	27.20	95.5	1.107
								1000	3.62	34.40	27.37	79.5	1.282
								1200	3.17	34.46	27.47	70.8	1.433
NM-165 44 39.2 N 127 54.0 W DATE 14 FEB 69 0226 GCT WIRE 22 DRY 48.0 WET 46.0 CRUISE C69020 WIND DIRECTION 14 VEL 14 KTS BAR 06 SWELL DIRECTION 14 H 05 T 05 CLUD 6 AMT 4 WEATHER													
0	7.79	32.458	6.80	.75			4.3	0	7.80	32.46	25.34	265.1	0
9	7.77	32.460	6.81	.81			4.4	10	7.77	32.46	25.34	265.1	.027
28	7.87	32.487	6.77					20	7.82	32.48	25.35	264.8	.053
48	7.87	32.486	6.75	.86			4.6	30	7.87	32.49	25.35	264.7	.079
95	8.07	33.670	7.81	1.91			24.0	50	7.90	32.53	25.34	262.3	.132
71	8.30	33.180	4.95					75	7.98	33.12	25.43	219.8	.192
120	7.89	33.849	7.30	2.07			25.9	100	8.03	33.70	26.27	178.0	.242
144	7.77	33.923	3.02	2.21			27.9	150	7.67	33.93	26.51	154.4	.326
192	6.88	33.938	2.78	2.57			31.6	200	6.79	33.94	26.64	144.0	.401
289	6.10	34.017	1.41	2.70			38.1	250	6.32	33.98	26.74	135.7	.471
384	5.54	34.057	1.27	3.01			38.0	300	6.03	34.02	26.80	129.8	.537
579	4.42	34.186	.69	3.27			40.8	400	5.48	34.07	26.91	121.2	.642
772	4.24	34.302	.24					500	5.07	34.13	27.00	112.0	.774
964	3.68	34.390	.31	3.31			40.8	600	4.75	34.20	27.10	104.6	.887
1158	3.18	34.457	.42	3.27			42.8	700	4.45	34.26	27.19	97.0	.984
								800	4.16	34.32	27.25	90.2	1.092
								1000	3.58	34.40	27.38	78.8	1.240

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk	NO ₃	Z	T	S	σ_t	B	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^8$)	(dyn/cm)

MM- 3 44 39.1 N 124 07.8 W DATE 14 MAR 2100 UTC WIRE 02 DRY 50.5 WET 46.4 CRUISE COUNT
WIND DIRECTION 15 VEL 05 KTS BAR 28 SWELL D. ECTION M T CLOUD 6 AMT 4 WEATHER 01

0	9.10	31.993	4.00	.69	.9	0	9.10	32.00	24.74	314.3	0
5	9.97	31.99	4.00	.68	.8	10	8.94	32.03	24.44	312.1	.32
10	8.84	32.07	7.56	.87	1.4	20	9.21	32.62	24.25	273.7	.31
15	9.05	32.548	6.45	1.10	6.1	30	9.28	32.80	25.38	261.4	.34
20	9.21	32.619	6.38	1.20	7.1						
25	9.25	32.724	6.21	1.34	8.2						
30	9.28	32.797	6.10								

MM- 5 44 39.1 N 124 10.4 W DATE 15 MAR 69 0017 ZCT WIRE 00 DRY 42.5 WET 45.5 CRUISE C6907F
WIND DIRECTION 18 VEL 04 KTS MAR 27 SWELL DIRECTION 18 M 01 T 01 CLOUD 6 AMT 4 WEATHER 01

0	9.15	31.984	8.39	.54	.1	0	9.15	31.99	24.77	319.7	0
5	9.12	31.983	8.37	.80	.1	10	8.97	32.13	24.90	307.1	.631
10	8.97	32.120	7.37	.74	1.1	20	8.96	32.48	25.18	240.8	.661
15	8.89	32.332	6.70	.97	4.4	30	9.11	32.67	25.30	269.3	.648
20	8.96	32.473	6.49	.95	5.3						
25	9.05	32.567	6.36	1.32	7.2						
30	9.11	32.661	6.25								
35	9.15	32.766	6.08	1.34	8.1						
40	9.30	32.896	5.72	1.40	10.1						
45	9.39	33.081	5.24	1.58	12.7						

MM- 15 44 39.1 M 124 25.4 W DATE 15 MAR 69 0255Z ACT WIRE 05 DRY 49.0 WET 45.0 CRUISE C6903F
WIND DIRECTION 22 VEL 04 KTS BAR 27 SWELL DIRECTION 02 H 02 T 02 CLOUD 6 AMT 4 WEATHER 01

0	8.92	32.130	7.62	.83	.5	0	8.92	32.13	24.92	305.5	0
5	8.88	32.140	7.63		.9	10	8.88	32.23	25.00	299.1	.730
10	8.88	32.224	7.44			20	8.92	32.60	25.28	271.7	.59
15	8.92	32.499	7.36	.97	1.6	30	8.92	32.67	25.34	265.0	.45
20	8.92	32.594	7.02		2.3	50	9.04	32.75	25.37	262.7	.38
25	8.88	32.633	7.02	1.12	3.9	75	7.98	33.15	25.85	217.7	.198
30	8.92	32.664	6.79	1.00	4.5						
35	9.01	32.728	6.63	.99	5.6						
40	9.05	32.746	6.56	.85							
45	9.04	32.741	6.55	1.00							
50	9.04	32.740	6.54	1.05	6.7						
55	8.91	32.742	6.55	1.09	6.8						
60		32.757	6.46	1.34	6.8						
65		32.817	6.40	1.32	8.1						
75		33.149	5.17	1.57	12.9						

MM- 25 44 39.0 N 124 28.5 W DATE 15 MAR 69 0730 GCT WIRE 10 DRY 47.9 WET 44.9 CRUISE C6903F
WIND DIRECTION 20 VEL 14 KTS BAR 26 SWELL DIRECTION 20 H 04 T 02 CLOUD 4 AMT 4 WEATHER 01

0	8.80	31.865	7.62	.43	.1	0	8.80	31.87	24.73	327.4	0
10	8.79	31.942	7.75	.58	.3	10	8.79	31.95	24.79	317.7	.032
20	8.82	32.272	7.25	.79	1.2	20	8.82	32.28	25.04	297.7	.063
30	8.90	32.559	6.77	.96	2.7	30	8.90	32.56	25.25	273.7	.091
40	8.98	32.648	6.59	1.00	4.9	40	8.98	32.67	25.34	244.2	.165
50	8.93	32.670	6.52	.93	4.3	50	8.93	32.71	25.39	241.7	.211
60	8.77	32.688	6.46	.88		100	8.99	32.12	25.56	245.9	.274
70	8.76	32.703	6.61	.73	3.6	150	8.27	33.78	26.30	175.8	.740
80	8.84	32.723	6.54	.82	6.3	200	7.27	33.94	26.57	150.6	.861
90	9.20	32.847	6.15	1.04	8.5						
100	9.69	33.112	5.37	1.17	9.7						
125	8.92	33.603	3.87	1.80	19.8						
150		33.777	3.31								
175	7.72	33.918	2.86	2.12	25.5						
200	7.27	33.942	2.74	2.10	25.5						

MM- 35 44 39.2 N 126 52.6 W DATE 15 MAR 69 0945 GCT WIRE 10 DRY 44.0 WET 46.0 CRUISE C6903F
WIND DIRECTION 19 VEL 14 KTS BAR 25 SWELL DIRECTION 19 H 04 T 03 CLOUD 6 AMT 3 WEATHER 02

0	8.65	32.637	6.89	.66	2.6	0	8.43	32.64	25.35	267.8	0
10	8.57	32.635	6.92	.70	2.8	10	8.57	32.64	25.38	267.0	.26
20	8.59	32.633	6.92	.64	2.7	20	8.59	32.64	25.36	267.5	.53
30	8.60	32.624	6.86	.52	2.6	30	8.60	32.63	25.36	264.1	.79
50	8.73	32.661	6.71	.89	5.4	50	8.73	32.67	25.36	264.9	.172
75	8.66	32.711	6.51	1.07	6.2	75	8.66	32.72	25.41	259.4	.197
98*	8.56	33.346	6.55	1.67	15.0	100	8.54	33.39	25.95	208.1	.256
124*	8.60	33.776	7.30			150	8.44	33.82	26.31	175.7	.42
149*	8.45	33.811	7.22	1.98	24.0	200	7.57	33.47	26.55	153.1	.434
173*	8.03	33.914	7.49	2.19	27.2	250	6.88	33.97	26.65	141.7	.574
198*	7.59	33.964	7.64	2.19	29.3	300	6.44	34.00	26.73	117.0	.778
223*	7.33	33.970	7.61								
247*	6.91	33.976	7.47								
267*	6.47	33.974	7.14	2.48	34.6						
346*	5.94	34.048	1.52	2.58	35.3						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(σ_t)	(dyn.m)
NM- 45 44 39.0 N 125 06.2 W DATE 15 MAR 69 1447 GCT WIRE 05 DRY 49.0 WET 47.0 CRUISE C6903F													
WIND DIRECTION 20 VEL 11 KTS BAR 25 SWELL DIRECTION 26 H 08 T 09 CLUD 4 AMT 7 WEATHER													
0	9.07	32.660	6.85	.69			3.9	0	9.07	32.67	25.31	266.3	0
10	9.03	32.660	6.84	.68			4.2	10	9.03	32.67	25.31	267.9	.027
30	8.91	32.691	6.85	.78			4.8	20	8.97	32.68	25.33	266.3	.054
49	8.82	32.625	6.71	.77			5.3	30	8.91	32.70	25.36	264.1	.040
74	8.83	32.679	6.70	.75			5.8	50	8.82	32.68	25.36	264.0	.113
99	9.28	32.897	6.04	.97			9.0	75	8.85	32.68	25.35	264.4	.199
125	9.31	33.602	3.94	1.70			21.4	100	9.29	32.92	25.47	243.0	.744
149	8.68	33.78	3.30					150	8.66	31.78	26.25	181.5	.173
200	8.04	33.904	3.01	1.87			23.0	200	8.08	31.91	26.43	164.4	.644
250	7.52	33.969	2.64	2.04			25.1	250	7.53	31.97	26.56	152.4	.634
301	6.75	33.984	2.30	2.12			27.8	300	6.76	31.98	26.48	142.3	.612
350	6.74	34.031	1.77	2.68				400	5.55	31.07	26.90	121.4	.744
400	5.54	34.063	1.28	2.71			36.7	500	5.16	31.13	26.99	113.4	.662
500	5.15	34.120	.89					600	4.70	31.21	27.11	103.4	.470
600	4.70	34.205	.69										

NM- 65 44 39.0 N 125 34.1 W DATE 20 MAR 69 1000 GCT WIRE 08 DRY 49.0 WET 47.0 CRUISE C6903F													
WIND DIRECTION 01 VEL 14 KTS BAR 18 SWELL DIRECTION 01 H 04 T 03 CLUD 3 AMT 7 WEATHER													
0	9.38	32.800	6.54	.91			5.6	0	9.38	32.80	25.37	262.6	0
10	9.35	32.794	6.57	.77			4.6	10	9.35	32.80	25.37	262.7	.026
30	9.34	32.799	6.55	.99			7.0	20	9.34	32.80	25.37	263.0	.053
50	9.37	32.799	6.55	1.01			7.3	30	9.34	32.80	25.37	262.5	.079
75	9.41	32.800	6.54	1.01			7.5	50	9.38	32.80	25.37	263.1	.131
100	9.92	33.316	4.79	1.44			15.6	75	9.41	32.80	25.36	264.2	.197
126	9.78	33.561	4.38	1.60			16.0	100	9.92	31.32	25.48	234.5	.760
151	9.46	33.684	3.49	1.63			19.7	150	9.48	31.68	26.03	201.7	.769
202	8.65	33.896	2.86	2.09			26.0	200	8.68	31.89	26.32	175.0	.643
402*	5.84	34.022	1.64	2.74			36.0	250	7.87	31.98	26.52	157.3	.566
603*	4.83	34.183	.60					300	7.12	31.96	26.61	149.1	.621
804*	4.16	34.317	.77	3.30			43.1	400	5.86	31.02	26.82	129.3	.742
1004*	3.63	34.395	.40					500	5.21	31.10	26.96	115.9	.684
1206*	3.12	34.467	.55					600	4.84	31.18	27.07	107.0	.606
								700	4.48	31.25	27.17	98.0	1.098
								800	4.17	31.31	27.25	90.5	1.102
								1000	3.64	31.39	27.37	80.2	1.363
								1200	3.13	31.46	27.47	70.2	1.613

NM- 85 44 39.1 N 126 02.3 W DATE 20 MAR 69 1600 GCT WIRE 10 DRY 49.9 WET 47.8 CRUISE C6903F													
WIND DIRECTION 03 VEL 20 KTS BAR SWELL DIRECTION 03 H 06 T 05 CLUD 0 AMT 3 WEATHER													
0	8.66	32.596	6.96	.70			2.6	0	8.66	32.60	25.32	267.0	0
10	8.60	32.596	6.98	.70			2.8	10	8.60	32.60	25.33	266.3	.027
30	8.57	32.599	6.95	.70			2.7	20	8.58	32.60	25.33	266.3	.053
50	8.56	32.599	6.86	.74			3.2	30	8.57	32.60	25.34	266.9	.080
75	8.64	32.681	6.60	.78			4.1	50	8.56	32.60	25.34	266.1	.133
100	9.37	33.192	5.21	1.14			10.7	75	8.64	32.69	25.39	261.5	.199
125	9.78	33.627	3.90	1.81			20.6	100	9.38	31.20	25.67	235.0	.761
150	8.61	33.857	2.91	2.10			26.1	150	8.61	31.86	26.31	175.0	.744
201	7.41	33.998	2.43	2.31			29.8	200	7.43	31.00	26.60	148.7	.444
402	5.58	34.076	1.22					250	6.71	31.05	26.74	135.9	.516
603	4.61	34.209	.52	2.83			35.2	300	6.17	31.04	26.80	130.5	.582
804	4.16	34.339	.49				40.5	400	5.58	31.08	26.90	121.8	.708
1004	3.62	34.414	.44	3.16			40.4	500	5.02	31.14	27.02	110.8	.825
1206	3.11	34.471	.58	3.30			42.7	600	4.62	31.21	27.12	102.4	.931
								700	4.37	31.28	27.20	95.0	1.030
								800	4.17	31.34	27.27	88.9	1.122
								1000	3.63	31.41	27.38	78.7	1.289
								1200	3.12	31.47	27.48	69.7	1.437

NM- 3 44 39.1 N 126 07.8 W DATE 12 APR 69 0241 GCT WIRE 08 DRY 53.5 WET 51.1 CRUISE C6904C													
WIND DIRECTION 35 VEL 10 KTS BAR 14 SWELL DIRECTION 28 H 08 T 09 CLUD 5 AMT 8 WEATHER													
0	11.09	31.728	7.13	.36			.1	0	11.09	31.73	24.25	369.3	0
10	10.15	32.277	7.06	.32			.1	10	10.15	32.28	24.83	313.5	.034
5	10.68	32.110	7.27	.31			.1	20	9.98	32.35	24.92	305.8	.045
15	9.98	32.315	6.77	.35			.1	30	8.57	32.50	25.26	273.6	.094
20	9.98	32.347	6.53	.44			.2						
25	9.90	32.386	6.59	.59			.2						
30		32.496	6.61	.55			1.4						

NM- 5 44 39.1 N 126 10.4 W DATE 12 APR 69 0355 GCT WIRE 00 DRY 52.4 WET 51.0 CRUISE C6904C													
WIND DIRECTION 26 VEL 05 KTS BAR 14 SWELL DIRECTION 28 H 08 T 09 CLUD 4 AMT 2 WEATHER													
0	11.09	32.160	7.05	.33			.1	0	11.09	32.17	24.58	317.4	0
5	10.43	32.413	7.17	.37			.1	10	9.82	32.45	25.02	294.9	.032
10	9.82	32.444	7.03	.42			.1	20	9.65	32.45	25.05	293.2	.041
15	9.68	32.450	6.74	.53			.4	30	9.46	32.46	25.08	290.1	.090
20	9.65	32.447	6.64	.50			.7						
25	9.51	32.442	6.56	.55			1.2						
30	9.46	32.452	6.55	.62			1.4						
35	9.41	32.486	6.57	.61			1.8						
40	9.39	32.493	6.59	.60			1.9						
45	9.35	32.514	6.54	.63			2.3						

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M	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\delta$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(10^3)	(dyn)
MM- 15	44.39.U N	124	74.2	W	DATE 12 APR 69	0555	GCT	WIRE 00	DRY 51.1	WET 50.3	CRUISE	C6404C	
WIND DIRECTION	25	VEL	12	KTS	R/R	14	SPELL	DIRECTION	28	M	ON T	09	CLOUD
0	10.17	32.549	6.74	.65			1.6	0	10.17	32.55	25.04	247.5	0
5	10.24	32.549	6.74	.66			1.6	10	9.77	32.58	25.13	245.7	.029
10	9.77	32.572	6.82	.71			1.7	20	9.60	32.60	25.17	241.4	.157
15	9.69	32.589	6.81	.67			1.7	30	9.47	32.60	25.19	279.5	.045
20	9.60	32.594	6.78	.63			1.8	50	9.24	32.63	25.25	274.1	.141
25	9.50	32.594	6.79	.67			1.8	75	8.64	33.04	25.67	235.3	.204
30	9.47	32.597	6.78										
35	9.47	32.617	6.79	.69			1.9						
40	9.34	32.617	6.78										
45	9.22	32.608	6.69										
50	9.24	32.627	6.64	.72			2.0						
55	9.93	32.637	6.62	.71			2.0						
60		32.643	6.61	.74			2.3						
66		32.698	6.27	.83			3.8						
76		33.096	4.79	1.33			13.2						

MM- 25	44 39.1 N	124 38.9 W	DATE 12 APR 69	1520 UTC	WIRE 20	DRY 51.0	WET 49.0	CRUISE C6904C			
WIND DIRECTION	17 VEL	25 KTS	BAR 10	SWELL DIRECTION	2: 106 T	14 CLOUD	7 AMT	A WEATHER			
0	10.06	32.579	6.83	.57		0	10.06	32.58	25.08	299.4	0
10	10.12	32.579	6.86	.57		10	10.13	32.58	25.07	299.7	.724
20	9.77	32.613	6.94	.53		20	9.77	32.62	25.16	292.4	.654
30	9.50	32.624	6.87	.57	1.1	30	9.50	32.63	25.21	277.9	.182
40	9.52	32.630	6.64	.62	1.5	50	9.34	32.63	25.24	275.7	.161
50	9.34	32.625	6.56	.64	1.8	75	9.30	32.98	25.51	244.8	.207
60	9.29	32.623	6.53			100	9.16	33.46	25.92	212.1	.264
70	9.34	32.771	6.13	.76	3.8	150	8.23	33.82	26.34	172.7	.741
80	9.25	33.167	4.85	1.32	13.1	200	7.75	33.96	26.52	156.1	.643
90	9.24	33.210	4.92	1.64	12.3						
100	9.16	33.458	4.15		18.4						
124	8.70	33.734	3.34	1.74	23.9						
149		33.819	2.22	1.86	26.0						
174	7.91	33.903	2.09	1.90	27.2						
199	7.76	33.957	2.77	2.03	30.2						

MM-35	44 38.1 N	124 52.9 W	DATE 13 APR 69 0320 GCT	WIRE 00	DRY 48.2	WET 45.8	CRUISE C6904C				
WIND DIRECTION	33	VEL 15 KTS	BAR 24	SWELL DIRECTION	25 M	06 T 08 CLSD	0 ANT	W. WEATHER			
0	9.53	32.582	6.64	.56	.9	0	9.53	32.59	25.17	281.1	.0
10	9.43	32.580	6.71	.51	.8	10	9.63	32.58	25.15	282.9	.025
20	9.50	32.578	6.68	.54	1.0	20	9.50	32.58	25.17	281.2	.055
30	9.51	32.587	6.68	.53	.9	30	9.51	32.59	25.18	280.8	.085
50	9.54	32.600	6.60	.55	1.0	50	9.54	32.60	25.19	280.7	.141
75	9.35	32.939	5.83	.83	5.8	75	9.35	32.84	25.40	280.4	.208
100	9.07	33.474	7.94	1.41	20.0	100	9.07	33.48	25.94	289.5	.267
126	8.78	33.704	7.55	1.60	22.4	150	8.33	33.88	26.37	189.4	.362
151	8.31	33.887	7.41	1.77	27.8	200	7.78	33.98	26.53	154.8	.443
176	7.97	33.956	7.71	1.85	29.5	250	7.27	34.02	26.63	145.8	.519
202	7.76	33.981	7.49			300	6.76	34.03	26.72	138.6	.589
227	7.37	33.963	7.41								
257	7.26	34.023	7.24	2.11	37.8						
303	6.72	34.033	7.40	2.28	36.0						
353	6.07	34.054	7.50	2.32	36.7						

MM-45	44 39.1 N	125 06.7 W	DATE 15 APR 69	0640 GCT	WIRE 00	DRY 47.9	WET 47.3	CRUISE C6904C			
WIND DIRECTION 30	VEL	OR KTS	BAR 25	SWELL DIRECTION 25	M 05	T 08	CLCUD 8	AMT 7			
WEATHER											
0	9.60	32.603	4.66	.60		0	9.60	32.61	25.18	280.4	0
10	9.73	32.607	4.68	.54		0	9.73	32.61	25.16	282.4	.079
30	9.60	32.605	4.69	.55		20	9.69	32.60	25.16	282.4	.056
50	9.60	32.616	4.63	.59		30	9.60	32.61	25.18	280.9	.085
74	9.18	32.936	5.59	.94		50	9.60	32.62	25.19	280.4	.141
99	9.18	33.434	4.19	1.33		75	9.18	32.94	25.52	289.4	.277
125	8.77	33.710	7.12	1.66		100	9.17	32.95	25.90	217.2	.245
150	8.35	33.845	3.34	1.74		150	8.35	33.85	26.34	172.1	.341
201	7.69	33.457	2.64	1.85		200	7.70	33.94	26.52	155.4	.463
250	7.16	34.004	2.40	1.88		250	7.17	34.01	26.44	145.0	.418
301	6.53	33.012	2.06	2.14		300	6.54	33.03	25.95	210.4	.467
351	6.10	34.043	1.60	2.34		400	5.71	34.09	26.89	122.5	.773
407	5.70	34.089	1.67	2.54		500	5.15	34.15	27.01	111.8	.890
503	5.14	34.147	.77	2.72		600	4.71	34.20	27.10	107.4	.928
604	4.69	34.205	.52	2.84							

OBSERVED

D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (ml/l) (μM) (meq/l) (μM)

NH-65 44 39.4 N 124 34.2 W DATE 14 APR 69 1316 GCT WIRE 00 DRY 47.5 WET 42.5 CRUISE C6904C
WIND DIRECTION 30 VEL 01 KTS BAR 29 SWELL DIRECTION 27 H 03 T 09 CLOUD 6 AMT A WEATHER

0	9.50	32.619	4.69	.70	
10	9.58	32.618	4.69	.74	
30	9.41	32.623	4.63		
50	9.44	32.624	4.65	.90	
75	9.35	32.654	4.60		
100	9.36	33.124	4.09	1.42	
126	9.08	33.473	4.11	1.68	
151	8.93	33.409	3.56	2.03	
202	8.13	33.843	2.94	2.07	
301	6.69	33.999	2.23	2.31	
404	5.79	34.051	1.41	2.83	
604	4.61	34.215	.51	3.19	
804	4.02	34.345	.54	3.33	
1010	3.50	34.419	.42	3.45	
1212	3.02	34.482	.60	3.37	

1.4
1.6
1.8
2.0
2.8
12.6
19.0
23.4
27.6
34.1
39.4
44.0
47.0
47.0

INTERPOLATED

DERIVED

23

Z T S σ_t S ΔD
(m) (°C) (‰) (10³) (dyna)

0	9.50	32.62	25.21	277.0	0
10	9.58	32.62	24.19	279.1	.028
20	9.51	32.62	24.20	278.5	.046
30	9.41	32.63	24.22	278.4	.083
50	9.44	32.63	25.22	277.1	.134
75	9.35	32.66	25.26	274.1	.204
100	9.36	33.13	25.63	270.4	.272
150	8.94	33.69	26.13	192.4	.380
200	8.17	33.88	26.40	167.0	.470
250	7.40	33.96	26.57	151.7	.540
300	6.73	34.00	26.69	140.7	.593
400	5.82	34.06	26.86	125.9	.756
500	5.14	34.13	27.00	112.6	.875
600	4.63	34.21	27.12	102.4	.943
700	4.29	34.28	27.21	97.4	1.041
800	4.04	34.34	27.29	87.0	1.171
1000	3.52	34.42	27.40	77.2	1.335
1200	3.05	34.48	27.49	68.2	1.541

NH-85 44 39.1 N 124 02.2 W DATE 15 APR 69 1841 GCT WIRE 03 DRY 50.0 WET 45.5 CRUISE C6904C
WIND DIRECTION 30 VEL 03 KTS BAR 29 SWELL DIRECTION 27 H 06 T 08 CLOUD 8 AMT 7 WEATHER

0	9.66	32.635	6.75	.77	
10	9.57	32.637	4.77	.76	
30	9.49	32.638	6.75	.72	
50	9.39	32.639	6.66	.76	
74	9.28	32.786	4.16	.89	
99	9.39	33.293	4.60	1.53	
125	8.95	33.620	1.68	1.87	
150	8.39	33.723	1.73	1.89	
200	8.13	33.957	2.60	2.21	
301	6.57	34.002	2.10	2.53	
402	5.78	34.061	1.30	2.90	
602	4.74	34.192	.52	3.07	
803	4.17	34.324	.79	3.42	
1004	3.60	34.405	.39	3.48	
1204	3.12	34.470	.54	3.53	

2.5
2.7
2.8
3.0
6.1
16.4
22.6
24.6
29.3
29.1
39.8
41.7
46.4
47.2
46.9

0	9.66	32.64	25.19	279.1	0
10	9.57	32.64	25.21	277.4	.028
20	9.52	32.64	25.21	277.4	.046
30	9.49	32.64	25.22	276.4	.083
50	9.39	32.64	25.24	275.4	.119
75	9.29	32.80	25.38	262.7	.206
100	9.38	33.31	25.76	226.7	.287
150	8.39	33.73	26.24	181.7	.369
200	8.13	33.96	26.47	161.4	.455
250	7.40	33.98	26.59	150.4	.533
300	6.59	34.00	26.71	139.4	.605
400	5.79	34.06	26.86	125.4	.737
500	5.20	34.12	26.99	113.4	.846
600	4.75	34.19	27.09	105.2	.946
700	4.43	34.26	27.18	97.0	1.047
800	4.18	34.32	27.26	90.0	1.160
1000	3.61	34.40	27.38	79.1	1.330
1200	3.13	34.47	27.48	69.8	1.578

NH-105 44 39.1 N 124 30.3 W DATE 15 APR 69 2106 GCT WIRE 00 DRY 50.8 WET 47.7 CRUISE C6904C
WIND DIRECTION 18 VEL 04 KTS BAR 30 SWELL DIRECTION 27 H 06 T 08 CLOUD 0 AMT 2 WEATHER

0	8.94	32.453	4.81	.79	
10	8.72	32.455	4.86	.83	
30	8.53	32.454	4.84	1.06	
50	8.44	32.474	4.79		
75	7.87	32.995	5.29	1.38	
100	7.90	33.452	4.23	1.76	
126	7.74	33.744	1.62		
151	7.46	33.834	3.66		
202	6.77	33.923	2.92		
303	5.84	33.993	1.83		
404	5.24	34.054	1.26	3.08	
606	4.59	34.208	.52	3.74	
808	4.09	34.349	.53	3.41	
1010	3.56	34.421	.43	3.46	
1212	3.08	34.472	.53	3.53	

2.4
2.4
2.4
2.7
13.3
20.8
25.1
26.2
30.6
36.9
42.6
44.7
45.4
44.9

0	8.94	32.46	25.17	281.4	0
10	8.72	32.46	25.20	278.5	.028
20	8.60	32.46	25.22	277.1	.056
30	8.53	32.46	25.23	275.4	.083
50	8.44	32.48	25.26	273.4	.138
75	7.88	33.00	25.75	227.2	.201
100	7.91	33.46	26.10	194.0	.254
150	7.47	33.84	26.46	160.5	.342
200	6.80	33.92	26.62	145.8	.419
250	6.27	33.96	26.73	136.4	.489
300	5.86	33.99	26.80	130.0	.556
400	5.26	34.05	26.92	119.4	.691
500	4.88	34.13	27.02	110.0	.795
600	4.60	34.20	27.12	102.5	.882
700	4.35	34.28	27.20	94.6	1.000
800	4.11	34.34	27.28	87.4	1.091
1000	3.59	34.42	27.39	77.8	1.256
1200	3.11	34.47	27.48	69.5	1.406

NH-125 44 39.1 N 126 59.0 W DATE 16 APR 69 0118 GCT WIRE 00 DRY 50.5 WET 47.9 CRUISE C6904C
WIND DIRECTION 18 VEL 10 KTS BAR 28 SWELL DIRECTION 27 H 06 T 07 CLOUD 0 AMT 7 WEATHER

0	8.68	32.435	4.89		
10	8.48	32.429	4.89	.77	
30	8.32	32.432	4.84		
50	8.23	32.441	4.84	.78	
75	7.95	33.024	5.19	1.62	
100	7.74	33.601	1.95	1.81	
126	7.79	33.790	1.41	1.96	
151	7.49	33.842	1.25	2.08	
202	6.79	33.931	2.64	2.39	
303	5.14	33.888	2.81	2.81	
404	4.59	33.955	2.02	2.81	
606	4.47	34.201	.49	3.20	
808	4.02	34.340	.68	3.40	
1010	3.44	34.420	.63		
1212	2.94	34.477	.57	3.47	

2.0
2.2
13.5
22.5
25.3
27.6
30.3
36.2
42.2
46.0
47.8
48.4
47.7

0	8.68	32.44	25.19	279.3	0
10	8.68	32.43	25.19	279.9	.028
20	8.51	32.43	25.21	277.8	.056
30	8.32	32.44	25.24	274.8	.083
50	8.23	32.45	25.26	273.1	.134
75	7.95	33.03	25.76	226.1	.201
100	7.74	33.61	26.24	180.7	.251
150	7.51	33.89	26.50	157.0	.336
200	6.82	33.93	26.63	145.5	.411
250	5.98	33.91	26.73	136.7	.482
300	5.18	33.95	26.80	124.4	.548
400	4.40	34.07	26.92	114.4	.677
500	4.47	34.19	27.02	109.5	.787
600	4.29	34.28	27.12	101.7	.893
700	4.04	34.34	27.21	94.1	.990
800	3.87	34.40	27.28	87.4	1.081
1000	3.47	34.47	27.40	76.5	1.245
1200	2.97	34.47	27.50	67.4	1.489

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk	NO ₃	Z	T	S	σ_t	δ	AD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
NM-165 44 39.4 N 127 25.9 W DATE 16 APR 69 USNA RCT WIRE 00 DRY 48.0 WET 47.0 CRUISE C69047													
WIND DIRECTION 1A VEL 10 KTS RAR 27 SWELL DIRECTION 27 M 06 T 09 CLOUD 7 AMT 8 WEATHER													
0	8.40	32.404	4.90				3.0	0	8.40	32.41	25.21	277.4	0
10	8.50	32.410	4.95				2.9	10	8.50	32.42	25.22	274.7	.128
30	8.20	32.408	4.95				3.0	20	8.39	32.41	25.21	277.4	.156
50	7.90	32.415	4.93				3.3	30	8.20	32.41	25.24	274.0	.143
75	7.20	32.407	4.71				13.5	50	7.91	32.42	25.29	270.4	.114
100	7.39	33.450	4.64	1.68			20.8	75	7.20	32.49	25.75	224.2	.100
124	7.72	33.773	3.57	1.96			26.2	100	7.40	33.44	26.13	144.4	.151
151	7.47	33.871	3.44	2.08			28.0	150	7.49	33.87	26.49	158.2	.118
202	6.99	33.905	3.09	2.24			30.4	200	7.01	33.90	26.44	140.0	.115
302	5.98	33.991	1.98	2.68			37.6	250	6.50	33.95	26.45	140.4	.107
403	5.15	34.015	1.54	2.97				300	6.00	33.99	26.74	131.0	.155
605	4.28	34.154	.86	.97			44.7	400	5.17	34.01	26.93	121.7	.182
807	3.95	34.329	.67	3.53			46.9	500	4.63	34.07	27.01	111.1	.194
1008	3.45	34.425	.41	3.60			47.2	600	4.29	34.15	27.11	102.9	.105
1210	3.01	34.474	.53	3.65			46.9	700	4.10	34.24	27.23	94.4	1.104
								800	3.94	34.32	27.23	97.4	1.105
								1000	3.47	34.42	27.41	74.1	1.158
								1200	3.03	34.47	27.49	68.4	1.103

NM-165 44 39.1 N 127 54.0 W DATE 16 APR 69 095R RCT WIRE 20 DRY 48.2 WET 47.7 CRUISE C69047
WIND DIRECTION 20 VEL 15 KTS RAR 24 SWELL DIRECTION 27 M 05 T 08 CLOUD 7 AMT 4 WEATHER

0	8.98	32.443	6.79	.74			1.4	0	8.98	32.45	25.15	283.1	0
9	9.07	32.444	6.81	.62			1.4	10	9.04	32.44	25.14	284.4	.128
28	8.38	32.399	6.92	.63			1.5	20	8.71	32.42	25.17	281.4	.157
48	8.25	32.397	6.91	.67			1.9	30	8.36	32.40	25.21	278.1	.185
71	7.72	32.950	5.49	1.25			13.2	50	8.20	32.44	25.26	273.4	.140
95	7.69	33.416	4.54	1.64			20.2	75	7.71	33.04	25.40	222.7	.102
120	8.02	33.627	3.83	1.85			23.7	100	7.76	33.47	26.13	191.0	.153
145	7.83	33.820	3.36	2.01			26.9	150	7.78	33.84	26.42	154.4	.142
193	7.31	33.927	2.83	2.24			29.8	200	7.24	33.94	26.57	150.7	.121
289	6.47	34.001	2.02	2.59			35.1	250	6.78	33.98	26.48	141.7	.144
386	5.92	34.057	1.36	2.89			38.1	300	6.40	34.01	26.74	135.7	.153
570	4.81	34.170	.66	3.21			41.9	400	5.83	34.07	26.56	124.4	.144
773	4.20	34.301	.57	3.44			44.5	500	5.21	34.13	26.99	113.0	.114
967	3.63	34.381	.36	3.53			44.7	600	4.70	34.19	27.09	104.4	.123
1160	3.23	34.462	.62	3.52			44.7	700	4.38	34.26	27.18	96.4	1.123
								800	4.12	34.31	27.25	97.0	1.117
								1000	3.55	34.39	27.34	79.1	1.185

NM 3 44 39.1 N 124 24.3 W DATE 13 MAY 69 0045 RCT WIRE 01 DRY 56.5 WET 54.0 CRUISE Y69053
WIND DIRECTION 32 VEL 10 KTS RAR 14 SWELL DIRECTION 28 M 02 T 05 CLOUD 6 AMT 1 WEATHER

0	8.62	33.756	3.66	2.17			23.3	0	8.63	33.76	26.23	180.7	0
5	8.74	33.750	3.73	2.30			24.3	10	8.56	33.75	26.24	180.7	.118
10	8.56	33.747	3.80	2.32			25.4	20	8.36	33.77	26.25	174.7	.136
15	8.53	33.713	3.63	2.23			25.2	30	7.72	33.89	26.47	158.0	.153
20	8.36	33.767	3.47	2.30			26.0						
25	8.01	33.847	2.85	2.40			27.6						
30	7.72		2.78	2.28			27.6						
35	7.69	33.906	2.78	2.32			28.6						

NM 5 44 39.1 N 124 10.7 W DATE 13 MAY 69 0301 RCT WIRE 02 DRY 51.5 WET 50.0 CRUISE Y69053
WIND DIRECTION 32 VEL 10 KTS RAR 14 SWELL DIRECTION 32 M 03 T 06 CLOUD 6 AMT 2 WEATHER 01

0	8.86	33.653	3.89	2.24			28.7	0	8.86	33.66	26.12	191.4	0
5	8.84	33.659	3.86	2.29			28.2	10	8.91	33.67	26.12	191.4	.119
10	8.91	33.664	3.91	2.23			27.9	20	8.57	33.67	26.17	184.4	.138
15	8.73	33.667	3.62	2.26			27.3	30	8.25	33.74	26.24	174.7	.156
20	8.57	33.662	3.52	2.21			26.8	50	7.61	33.91	26.50	155.4	.189
25	8.40	33.685	3.21	2.21			26.4						
30	8.25	33.718	2.84										
35	8.11	33.795	2.70	2.34			27.3						
40	7.96	33.839	2.62	2.34			26.9						
50	7.61	33.900	2.70	2.08			21.6						

NM 15 44 39.0 N 124 24.6 W DATE 13 MAY 69 0445 RCT WIRE 05 DRY 57.3 WET 52.1 CRUISE Y69053
WIND DIRECTION 32 VEL 05 KTS RAR 15 SWELL DIRECTION M T CLOUD 6 AMT 2 WEATHER 02

0	9.58	32.267	6.84	.66			1.9	0	9.58	32.27	24.92	304.2	0
5	9.58	32.267	6.87	.63			1.9	10	9.57	32.27	24.92	304.2	.131
10	9.57	32.270	6.84	.61			1.9	20	9.28	32.31	25.02	294.1	.161
15	9.58	32.272	6.85	.64			1.9	30	9.05	32.38	25.07	289.2	.140
20	9.28	32.305	6.84	.63			2.0	50	8.17	32.55	25.34	244.2	.145
25	9.30	32.315	6.84	.62			2.0	75	8.47	32.93	25.51	240.7	.108
30	9.05	32.340	6.87	.63			2.1						
35	8.71	32.445	6.84	.70			2.8						
40	8.31	32.440	6.77	.74			3.5						
50	8.17	32.549	6.51	.80			5.8						
75	8.47	32.928	5.30	1.33			12.8						

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MM	65	44 38.2 N	125 37.3 W	DATE 14 MAY 69	OSIA OCT	WIRE	DRY 57.9	WET 54.7	CRUISE Y6905A
		WIND DIRECTION 31	VEL 07 KTS	RAR 17 SWELL DIRECTION 71 M		T	CLCUD 6 AMT	A WEATHER 03	
0	10.99	6.74	.48						
10	10.64	6.76		1.3					
20	10.61	6.71		1.0					
30	10.67	6.69	.36	.8					
40	10.54	6.69	.45	1.1					
50	10.23	6.67	.47	1.1					
60	10.01	6.67	.51	1.4					
70	9.51	6.58	.53	1.7					
80	9.22	6.48	.58	2.7					
100	9.12	6.39	.68	4.3					
125	8.71	6.35	1.43	18.0					
150	8.36	6.27	1.76	24.6					
175	8.04	6.07	1.92	26.3					
200	7.66	6.01							
		2.68	1.96	26.4					

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NM 65 44 38.0 N 125 37.0 W DATE 14 MAY 69 0732 GCT WIRE 07 DRY 52.4 WFT 51.0 CRUISE Y69044													
WIND DIRECTION VEL 00 KTS BAR 18 SWELL DIRECTION M 00 T CLCUD 6 AMT W WEATHER 02													
0	10.92	32.548	4.74	.60			.2	0	10.92	32.55	24.91	305.0	0
10	10.54	32.541	4.74	.55			.1	10	10.54	32.57	24.94	299.4	.033
20	10.54	32.546	4.71	.54			.1	20	10.54	32.59	25.03	297.4	.040
30	10.26	32.546	4.69	.51			.1	30	10.26	32.57	25.04	294.3	.060
40	9.79	32.534	4.54	.61			1.0	50	9.64	32.60	25.17	282.0	.147
50	9.64	32.545	4.57	.64			1.6	75	8.88	32.75	25.33	260.0	.215
60	8.79	32.544	4.48	.70			2.4	100	9.04	32.54	25.43	244.0	.273
70	8.64	32.607	4.28	.81			4.2	150	8.35	32.86	26.35	171.0	.347
80	9.16	32.915	4.50	1.04			9.5	200	7.76	33.96	26.52	155.4	.449
100	9.04	33.530	3.86	1.47			16.5						
125	8.72	33.758	3.37	1.87			24.5						
150	8.35	33.858	3.03	1.96			25.5						
175	7.96	33.941	2.85	2.01			26.1						
200	7.76	33.965	2.71	2.16			28.7						

NM 65 44 36.8 N 125 35.3 W DATE 14 MAY 69 1030 GCT WIRE 03 DRY 52.3 WFT 50.0 CRUISE Y69049													
WIND DIRECTION 35 VEL 04 KTS BAR 18 SWELL DIRECTION 15 M 02 T 07 CLCUD 6 AMT W WEATHER 02													
0	11.00	32.526	4.71	.57			.2	0	11.00	32.53	24.98	308.0	0
10	10.70	32.559	4.71	.54			.2	10	10.70	32.56	24.96	301.4	.031
20	10.60	32.559	4.77				.1	20	10.60	32.56	24.99	300.0	.051
30	10.35	32.564	4.71	.51			.1	30	10.35	32.57	25.02	295.4	.090
40	9.84	32.559	4.72	.61			.3	50	9.33	32.55	25.18	281.0	.148
50	9.33	32.550	4.58	.68			.6	75	9.20	33.08	25.81	240.0	.213
60	8.95	32.573	4.48	.78			1.9	100	9.04	32.53	25.99	205.0	.249
70	9.20	32.953	4.48	1.12			8.6	150	8.43	33.85	26.33	173.0	.354
80	9.16	33.189	4.78	1.17			13.4	200	7.93	33.95	26.49	159.0	.447
100	9.04	33.523	3.84	1.35			26.0						
125	8.65	33.780	3.30	1.84			26.7						
150	8.43	33.845	3.11	1.92			27.1						
175	8.21	33.910	2.91	1.94									
200	7.93	33.951	2.73	1.94									

NM 65 44 38.6 N 125 35.3 W DATE 14 MAY 69 1708 GCT WIRE 02 DRY 52.5 WFT 48.5 CRUISE Y69148													
WIND DIRECTION 35 VEL 10 KTS BAR 21 SWELL DIRECTION 12 M 04 T 07 CLCUD 6 AMT W WEATHER													
0	10.82	32.617	4.72					0	10.82	32.62	24.98	299.1	0
10	10.81	32.620	4.30					10	10.81	32.63	24.99	294.3	.030
20	10.54	32.630	4.67					20	10.71	32.63	25.01	297.3	.060
30	10.01	32.628	4.58					30	10.54	32.63	25.04	294.1	.089
40	9.59	32.648	4.46					50	10.01	32.63	25.13	286.0	.147
50	9.15	32.804	5.66					75	9.31	32.73	25.32	267.4	.216
60	8.27	33.277	4.71					100	8.27	33.28	25.91	212.2	.276
70	8.72	33.760						150	8.25	33.89	26.39	167.4	.371
80	8.25	33.886	2.99					200	7.70	33.92	26.55	153.4	.452
90	7.70	33.979	2.67					250	7.25	34.03	26.64	144.3	.526
100	6.81	34.048	2.08					300	6.82	34.05	26.72	137.4	.597
110	5.73	34.074	1.50					400	5.73	34.08	26.89	127.4	.727
120	5.13	34.148	0.74					500	5.14	34.15	27.02	111.7	.845
130	4.75	34.222	0.39					600	4.76	34.23	27.12	102.4	.951
140	4.13	34.357	0.30					700	4.42	34.29	27.21	94.2	1.050
150	3.61	34.424	0.29					800	4.14	34.36	27.29	84.4	1.140
160	3.19	34.474	0.52					1000	3.41	34.43	27.40	77.7	1.204
170								1200	3.19	34.47	27.48	70.1	1.451

NM 85 44 39.1 N 124 03.1 W DATE 14 MAY 69 2211 GCT WIRE 02 DRY 53.0 WFT 48.0 CRUISE Y69154													
WIND DIRECTION 35 VEL 04 KTS BAR 22 SWELL DIRECTION 12 M 04 T 10 CLCUD 6 AMT W WEATHER 01													
0	11.15	32.567	4.63	.53			.3	0	11.15	32.57	24.89	305.4	0
10	11.06	32.602	4.63	.47			.2	10	11.06	32.61	24.93	304.4	.031
20	10.93	32.559	4.64	.53			.4	20	10.93	32.66	25.00	295.2	.061
30	10.84	32.551	4.63	.54			.4	30	10.84	32.66	25.01	297.5	.091
40	9.97	32.603	4.63	.62			1.3	50	9.97	32.61	25.12	287.2	.149
50	9.17	32.869	4.57	1.04			8.6	75	9.17	32.87	25.45	255.4	.217
60	8.25	33.202	4.92	1.32			14.3	100	8.25	33.21	25.86	217.5	.276
70	7.99	33.498	4.42					150	7.74	33.73	26.34	172.4	.373
80	7.74	33.723	4.13	1.52			17.2	200	7.65	33.90	26.57	151.1	.454
90	7.07	33.895	3.93	1.76			24.1	250	6.47	33.93	26.67	141.7	.527
100	6.49	33.924	3.25	2.04			29.0	300	5.68	33.92	26.77	132.8	.596
110	5.69	33.924	2.76	2.25			32.9	400	5.28	34.04	26.91	127.7	.723
120	5.28	34.039	1.41	2.69			39.1	500	4.89	34.12	27.02	117.6	.834
130	4.56	34.185	.84	3.05			43.2	600	4.56	34.19	27.11	107.2	.945
140	4.12	34.338	.27					700	4.32	34.27	27.20	97.2	1.044
150	3.48	34.424	.31	3.22			45.3	800	4.11	34.34	27.29	89.1	1.136
160	3.11	34.474	.42	3.15			42.0	1000	3.57	34.43	27.40	74.7	1.200
170								1200	3.10	34.47	27.48	66.1	1.446

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NM 105 44 39.0 N 126 31.0 W DATE 15 MAY 69 0117 OCT WIRE 07 DRY 53.5 WET 47.0 CRUISE Y69058													
WIND DIRECTION 35 VEL 04 KTS BAR 22 SWELL DIRECTION 35 M 06 T 04 CLOUD 8 AMT 5 WEATHER 02													
0	11.17	32.555	4.67	.50			.1	0	11.17	32.56	24.87	309.4	0
10	10.82	32.554	4.69	.57			.2	10	10.82	32.56	24.94	303.4	.131
20	10.74	32.559	4.72	.49			.2	20	10.74	32.56	24.95	302.5	.161
30	10.69	32.558	4.71	.50			.2	30	10.69	32.56	24.96	301.9	.191
50	9.91	32.601	4.33	.81			1.4	50	9.91	32.61	25.13	294.4	.150
74	9.43	32.677	4.30	.82			5.2	75	9.37	32.69	25.28	272.0	.220
90	7.96	33.104	5.24	1.16			12.0	100	7.93	33.12	25.84	219.4	.281
124	7.64	33.454	4.58	1.51			19.5	150	7.56	33.64	26.30	174.2	.380
149	7.56	33.674	4.27	1.64			22.2	200	7.25	33.87	26.52	145.4	.443
198	7.27	33.844	3.61	1.77			25.5	250	6.78	33.97	26.67	142.3	.537
297	6.29	34.011	4.46	2.21			26.2	300	6.26	34.01	26.77	137.4	.606
396	5.44	34.064	1.28					400	5.42	34.07	26.91	120.4	.733
495	5.03	34.147	1.06	2.38			22.4	500	5.01	34.15	27.03	109.4	.844
594	4.58	34.217	.40	2.60			24.6	600	4.56	34.22	27.13	100.7	.953
793	3.98	34.329	.43					700	4.23	34.28	27.22	93.0	1.050
991	3.50	34.421	.29	2.89			31.9	800	3.96	34.33	27.29	84.8	1.140
1189	3.07	34.479	.43	2.76				1000	3.48	34.42	27.41	74.1	1.303
								1200	3.05	34.48	27.49	67.9	1.447

NM 125 44 39.6 N 126 44.0 W DATE 15 MAY 69 0544 OCT WIRE 04 DRY 49.1 WET 45.0 CRUISE Y69058
WIND DIRECTION 06 VEL 04 KTS BAR 22 SWELL DIRECTION 35 M 06 T 05 CLOUD 6 AMT 6 WEATHER 02

0	10.04	32.451	6.86	.57			1.4	0	10.04	32.46	24.99	299.7	0
10	9.79	32.453	6.87	.58			1.5	10	9.79	32.46	25.03	294.8	.030
20	9.56	32.449	6.85	.58			1.4	20	9.56	32.45	25.06	291.7	.149
30	9.57	32.447	6.86	.57			1.4	30	9.57	32.45	25.05	292.1	.184
50	8.70	32.474	6.95	.57			1.5	50	8.70	32.44	25.19	280.3	.145
75	8.19	32.489	6.54	.69			3.2	75	8.19	32.49	25.51	264.4	.214
100	7.61	32.878	5.60	1.12			12.3	100	7.61	32.88	25.70	232.4	.277
125	7.50	33.559	4.39	1.56			21.8	150	7.35	33.77	26.42	164.1	.376
150	7.35	33.761	3.38	1.79			25.1	200	6.80	33.93	26.63	145.0	.453
200	6.79	33.927	2.92	2.01			26.9	250	6.24	33.98	26.75	134.7	.523
299	5.76	33.995	1.96	2.54			36.2	300	5.75	34.00	26.82	128.4	.582
399	5.11	34.054	1.22	2.84			40.6	400	5.10	34.05	26.94	117.5	.712
499	4.65	34.148	.65	2.98			42.1	500	4.65	34.15	27.07	105.5	.823
599	4.39	34.218	.36					600	4.39	34.24	27.17	97.4	.925
798	3.89	34.352	.29	3.31			44.1	700	4.14	34.30	27.24	90.3	1.018
998	3.37	34.440	.34	3.46			43.8	800	3.88	34.35	27.31	84.4	1.106
1197	2.98	34.478	.46	3.29			42.1	1000	3.37	34.44	27.43	73.6	1.244
								1200	2.97	34.48	27.50	67.3	1.404

NM 165 44 39.0 N 127 55.0 W DATE 15 MAY 69 1312 OCT WIRE 05 DRY 49.0 WET 45.0 CRUISE Y69058
WIND DIRECTION 04 VEL 04 KTS BAR 20 SWELL DIRECTION 40 M 03 T 10 CLOUD 6 AMT 4 WEATHER 02

0	10.24	32.491	6.72					0	10.24	32.50	24.98	299.0	0
10	10.25	32.491	6.71					10	10.25	32.50	24.98	299.3	.030
20	10.24	32.489	6.71					20	10.24	32.49	24.98	299.4	.060
30	10.21	32.489	6.67					30	10.21	32.49	24.99	299.1	.090
50	9.02	32.434	6.85					50	9.02	32.44	25.14	285.1	.144
75	8.21	32.484	6.62					75	8.21	32.49	25.30	269.9	.218
100	7.68	32.938	5.72					100	7.69	32.94	25.73	229.1	.280
125	7.64	33.519	4.74					150	7.53	33.73	26.37	169.2	.379
150	7.52	33.724	4.44					200	7.14	33.88	26.54	153.8	.440
199	7.15	33.874	3.88					250	6.47	33.89	26.64	144.4	.535
299	5.76	33.908	3.02					300	5.75	33.91	26.75	134.8	.605
399	4.81	33.970	1.83					400	4.81	33.97	26.91	120.3	.732
499	4.82	34.129	.72					500	4.82	34.13	27.03	108.9	.847
598	4.52	34.217	.39					600	4.51	34.22	27.14	100.4	.951
798	3.94	34.319	.25					700	4.21	34.28	27.21	93.2	1.044
997	3.53	34.422	.29					800	3.94	34.32	27.28	87.4	1.138
1197	3.06	34.473	.43					1000	3.52	34.42	27.40	74.7	1.302
								1200	3.05	34.47	27.49	68.6	1.447

NM 145 44 40.0 N 127 27.6 W DATE 15 MAY 69 1535 OCT WIRE DRY 50.5 WET 46.0 CRUISE Y69058
WIND DIRECTION 10 VEL 04 KTS BAR 20 SWELL DIRECTION 01 M 04 T 05 CLOUD 6 AMT 7 WEATHER 03

0	10.27	32.468	6.74					0	10.27	32.47	24.96	301.1	0
10	10.23	32.466	6.73					10	10.23	32.47	24.97	300.8	.030
20	10.13	32.470	6.72					20	10.13	32.47	24.99	299.1	.060
30	9.86	32.463	6.77					30	9.86	32.47	25.03	295.5	.090
50	8.73	32.450	6.77					50	8.73	32.46	25.20	279.4	.147
75	7.82	32.530	6.49					75	7.82	32.53	25.39	261.1	.215
100	7.66	32.925	5.53					100	7.67	32.93	25.72	229.8	.276
124	7.73	33.314	4.85					150	7.43	33.61	26.29	174.8	.378
149	7.45	33.604	4.67					200	6.51	33.88	26.63	145.2	.458
190	6.52	33.477	4.01					250	5.97	33.90	26.71	137.4	.529
299	5.68	33.920	3.05					300	5.68	33.92	26.77	131.0	.596
398	5.35	34.055	1.31					400	5.34	34.06	26.92	120.1	.723
498	4.73	34.134	1.74					500	4.72	34.14	27.05	107.4	.837
597	4.44	34.219	.43					600	4.43	34.22	27.15	94.2	.940
796	3.98	34.354	.26					700	4.20	34.30	27.23	91.4	1.035
995	3.41	34.435	.29					800	3.97	34.36	27.30	85.1	1.123
1194	3.00	34.492	.46					1000	3.40	34.44	27.43	74.2	1.281
								1200	2.99	34.49	27.51	68.4	1.423

OBSERVED

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DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^5$)	(dynm)
TM 45 45 55.1 N 125 07.0 W DATE 14 MAY 69 1010 ICT WIRE 04 DRY 51.2 WET 48.0 CRUISE Y69058													
WIND DIRECTION VFL 00 KTS BAR 19 SWELL DIRECTION 01 M 04 T 10 CLOUD 6 AMT 4 WEATHER 02													
0	12.90	26.548	7.14	.35			.1	0	12.93	26.54	19.92	787.4	0
10	10.45	31.627	6.76	.40			.1	10	10.45	31.63	24.19	374.4	.754
20	8.69	32.468	7.04	.56			1.5	20	8.69	32.47	25.22	277.1	.090
30	8.19	32.433	6.88	.60			2.0	30	8.19	32.44	25.26	272.3	.114
40	7.46	32.447	6.76	.63			2.8	40	7.46	32.44	25.31	268.4	.172
50	7.11	32.516	6.67	.73			4.4	50	7.11	32.51	25.49	251.7	.237
60	7.73	33.078	6.20	1.26			15.1	60	7.73	33.08	25.46	218.4	.296
70	7.53	33.416	6.51	1.51			19.7	70	7.53	33.42	24.10	168.3	.192
80	7.58	33.752	7.70	1.54			18.4	80	7.58	33.75	24.12	144.2	.470
90	7.04	33.944	7.03	1.94			26.3	90	7.04	33.94	26.70	139.1	.542
100	5.94	33.975	7.25	2.33			29.3	100	5.94	33.98	26.78	112.1	.410
110	5.72	34.022	1.56	2.43			29.3	110	5.72	34.03	26.41	120.4	.736
120	4.69	34.088	.04	2.64			31.8	120	4.69	34.10	27.02	109.4	.451
130	4.64	34.194	.46	2.52			25.5	130	4.64	34.23	27.11	102.7	.957
140	4.10	34.342	.25	3.13			36.8	140	4.10	34.29	27.21	94.4	1.056
150	3.57	34.426	.33	3.24			42.2	150	4.07	34.35	27.29	88.1	1.146
160	3.14	34.479	.59	3.09			34.1	160	3.53	34.43	27.41	76.7	1.309
170								170	3.10	34.44	27.49	68.4	1.454

TM 35 45 56.3 N 124 49.8 W DATE 14 MAY 69 1254 ICT WIRE 03 DRY 53.0 WET 48.8 CRUISE Y69059

WIND DIRECTION 03 VEL 04 KTS BAR 18 SWELL DIRECTION 33 M 01 T 06 CLOUD 8 AMT 3 WEATHER 01													
0	12.20	30.286	6.71	.36			.1	0	12.23	30.29	22.93	494.3	0
10	10.64	31.486	6.96	.42			.1	10	10.64	31.49	24.14	380.1	.044
20	9.23	32.401	6.91	.66			.8	20	9.23	32.41	25.14	290.7	.077
30	9.03	32.473	6.97	.66			1.1	30	9.03	32.44	25.17	282.1	.106
40	8.70	32.465	6.88				1.4	40	8.74	32.52	25.23	274.1	.142
50	8.84	32.519	6.56	.63			1.8	50	8.84	32.64	25.37	263.1	.229
60	8.55	32.533	6.49	.75				60	8.45	33.14	25.41	227.1	.290
70	8.69	32.639	6.19	.84			4.6	70	7.82	33.82	26.40	144.1	.387
80	8.60	32.692	5.97				5.5	80	6.99	33.93	26.40	148.1	.445
90	8.45	33.179	6.64	1.41			17.4						
100	7.58	33.578	6.11	1.66			23.7						
110	7.82	33.819	7.40	1.96			25.6						
120	7.58	33.949	2.71				28.1						
130	6.99	33.926	2.88	2.04			30.4						

TM 25 45 55.3 N 124 35.1 W DATE 16 MAY 69 1446 ICT WIRE 03 DRY 53.0 WET 49.5 CRUISE Y69060

WIND DIRECTION VEL 00 KTS BAR 19 SWELL DIRECTION 33 M 01 T 08 CLOUD 6 AMT 8 WEATHER 03													
0	11.32	29.926	6.52	.74			4.9	0	11.32	29.93	22.41	506.4	0
10	10.18	31.385	7.48	.93			5.8	10	10.14	31.39	24.13	380.1	.044
20	9.19	31.899	6.76	.72			3.2	20	9.13	31.90	24.49	326.1	.080
30	8.90	32.426	6.60	.95			3.7	30	8.93	32.43	25.15	283.4	.110
40	8.70		6.56					40	8.58	32.53	25.29	271.1	.166
50	8.58	32.524	6.55	.81			3.0	50	8.61	32.91	25.47	244.1	.230
60	8.49	32.560	6.31	.94			6.4	60	8.09	33.50	26.11	193.4	.285
70	8.57	32.747		1.12			9.1						
80	8.63	33.076	4.85	1.21			11.0						
90	8.09	33.491	7.62	1.74			20.7						
100	7.59	33.848	2.44	2.21			28.8						
110	7.14	33.937	2.17	1.94			19.1						

TM 15 45 56.3 N 124 20.9 W DATE 14 MAY 69 1635 ICT WIRE 03 DRY 56.5 WET 54.5 CRUISE Y69061

WIND DIRECTION VEL 00 KTS BAR 20 SWELL DIRECTION 32 M 02 T 04 CLOUD 6 AMT 8 WEATHER 02													
0	12.18	23.952	6.08	.49			.2	0	12.18	23.96	18.45	963.4	0
5	11.15	30.032	6.18	.33			.1	10	10.74	31.43	24.47	384.1	.067
10	10.74	31.423	7.95	.33			.1	20	9.29	32.22	24.44	303.1	.102
20	9.20	32.218	5.98	1.23			1.3	30	8.72	32.52	25.25	274.1	.131
30	8.72	32.515	5.57	1.30			12.3	40	8.39	32.97	25.45	234.1	.142
40	8.54	32.674	5.54					50	7.45	33.95	26.35	151.1	.230
50	8.39	32.956	4.76	1.49			15.6	60	6.95	33.97	26.44	143.1	.267
60	7.92	33.583	7.08	2.07			24.2						
70	7.63	33.904	2.62	2.24			28.3						
80	7.29	33.949	2.42	2.29			29.6						
90	7.14	33.961	2.36	2.30			29.7						
100	6.95	33.963	2.18	2.43			30.8						
110	6.84	33.991	2.12	2.44			31.1						

TM 3 45 56.1 N 124 07.5 W DATE 14 MAY 69 1815 ICT WIRE 00 DRY 57.1 WET 54.5 CRUISE Y69062

WIND DIRECTION VEL 00 KTS BAR 20 SWELL DIRECTION M 00 T CLOUD 6 AMT 8 WEATHER 02													
0	11.74	24.937	6.41	.44			.1	0	11.74	24.94	21.37	586.7	0
5	11.04	30.460	7.60	.49			.5	10	9.70	31.57	24.16	354.1	.047
15	8.49	32.291	5.73					20	8.53	32.52	25.29	271.1	.079
25	8.56	32.575	6.26	.99			7.3	30	8.53	32.84	25.44	244.1	.105
35	8.51		7.25	1.71			19.0	40	7.99	33.87	26.42	163.7	.145
45	7.46	31.751	2.74	2.12			26.0						
50	7.49	31.867	2.45	2.11			27.7						
55	7.40	33.913	2.70	2.11			27.4						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn.m)
CH 14 43 20.0 N 124 43.8 W DATE 18 MAY 69 1126 GCT WIRE 04 DRY 55.0 WET 52.5 CRUISE Y6905R													
WIND DIRECTION 20 VEL 20 KTS BAR 11 SWELL DIRECTION 15 M 04 T 07 CLUD 6 AMT 6 WEATHER 01													
0	10.45	32.261	7.05	.39			.2	0	10.45	32.27	24.77	319.4	0
10	10.35	32.261	7.02	.40			.3	10	10.35	32.27	24.79	317.9	.0032
20	9.64	32.336	6.97	.37			1.2	20	9.64	32.34	24.96	302.1	.0063
30	9.37	32.437	6.72	.57			2.9	30	9.38	32.44	25.09	289.4	.0092
40	8.85	32.474	6.62				3.3	40	8.72	32.50	25.23	274.0	.0149
50	8.72	32.474	6.58	.69			4.3	50	8.64	33.08	25.70	232.3	.013
75	8.64	33.074	5.07	1.49			15.1	75	8.44	33.49	26.04	190.4	.027
100	8.46	33.482	3.43	1.87			21.9	100	7.72	33.95	26.51	155.4	.055
125	7.42	33.863	2.63	2.21			28.1	150	6.94	34.04	26.70	130.1	.049
150	7.72	33.942	2.49					200	6.70	34.05	26.74	135.8	.048
175	7.52	33.990	2.32	2.30			31.1						
200	6.93	34.031	2.02	2.43			33.5						
250	6.70	34.049	1.82	2.55			34.9						

CH 25 43 20.6 N 124 56.5 W DATE 18 MAY 69 1505 GCT WIRE 04 DRY 53.2 WET 52.3 CRUISE Y6905R													
WIND DIRECTION VEL 10 KTS BAR 12 SWELL DIRECTION 18 M 04 T 06 CLUD 8 AMT 6 WEATHER 02													
0	11.20	32.290	7.08	.37			.1	0	11.20	32.29	24.66	329.7	0
10	11.17	32.244	7.04	.39			.1	10	11.17	32.29	24.66	329.4	.0033
20	10.08	32.436	7.26	.39			.1	20	10.08	32.44	24.97	300.4	.0044
30	9.72	32.534	6.86	.55			2.0	30	9.72	32.54	25.10	288.0	.0094
40	9.67	32.575	6.66	.61			3.0	40	9.47	32.61	25.20	279.1	.0151
50	9.47	32.607	6.40	.70			5.3	50	9.18	32.88	25.46	255.0	.0217
75	9.18	32.877	5.60	.94			9.9	75	9.13	33.47	25.93	210.4	.0276
100	9.12	33.469	3.93	1.60			19.7	100	8.33	33.84	26.34	172.6	.0371
125	8.74	33.737	3.17	2.01			26.2	150	7.58	33.96	26.54	154.0	.0453
149	8.34	33.833	2.94	2.06			27.5	200	6.91	34.01	26.68	141.3	.0527
174	7.98	33.909	2.73	2.18			29.2	250	6.51	34.03	26.75	135.3	.0566
199	7.60	33.954	2.50	2.26			30.4	300	5.85	34.10	26.89	121.4	.055
249	6.92	34.012	2.05	2.47			33.4	400	5.41	34.13	26.96	116.1	.0457
299	6.52	34.032	1.77	2.67			35.2	500	4.98	34.19	27.06	108.0	.057
398	5.86	34.077	1.21	2.97			38.5						
498	5.42	34.129	1.11	2.96									
598	4.99	34.189	.56	3.32			41.6						

CH 35 43 20.7 N 124 09.2 W DATE 18 MAY 69 1645 GCT WIRE 04 DRY 54.4 WET 54.2 CRUISE Y6905R													
WIND DIRECTION 19 VEL 14 KTS BAR 14 SWELL DIRECTION 16 M 03 T 03 CLUD 6 AMT 9 WEATHER 01													
0	11.85	32.454	6.68	.45			.1	0	11.85	32.46	24.67	328.4	0
10	11.86	32.451	6.67	.46			.1	10	11.86	32.46	24.67	329.4	.0033
20	11.82	32.452	6.69	.42			.1	20	11.82	32.46	24.68	329.4	.0044
30	11.06	32.498	6.81	.43			.1	30	11.06	32.50	24.85	312.5	.0094
50	9.86	32.509	6.60	.58			.8	50	9.86	32.51	25.06	292.4	.0149
75	8.79	32.733	5.94	.70			5.4	75	8.79	32.74	25.41	259.8	.0227
100	9.18	33.296	4.29	1.61			17.9	100	9.18	33.30	25.79	224.4	.0284
125	8.54	33.616	3.02	2.02			24.1	150	8.27	33.76	26.24	177.7	.0344
150	8.27	33.753	3.62					200	7.51	33.93	26.53	155.1	.0472
200	7.50	33.921	3.15	2.03			24.4	250	6.40	34.01	26.68	141.3	.0466
299	6.40	34.050	1.59	2.79			36.2	300	6.39	34.05	26.78	132.4	.0414
399	5.68	34.096	1.19	3.05			37.5	400	5.67	34.10	26.91	121.3	.041
499	5.18	34.164	.66	3.25			38.8	500	5.18	34.16	27.02	110.7	.037
599	4.84	34.232	.34	3.25			37.9	600	4.84	34.23	27.11	103.1	.0344
794	4.27	34.340	.33	3.27			34.8	700	4.53	34.29	27.19	95.4	.0343
994	3.92	34.390	.29	3.24			33.6	800	4.27	34.34	27.26	89.7	.0356
1198	3.22	34.474	.52	3.49			37.6	1000	3.91	34.39	27.34	81.7	.0329
								1200	3.21	34.47	27.47	70.4	.0443

CH 45 43 20.0 N 125 23.6 W DATE 18 MAY 69 1932 GCT WIRE 02 DRY 54.5 WET 55.0 CRUISE Y6905R													
WIND DIRECTION 14 VEL 14 KTS BAR 14 SWELL DIRECTION 16 M 03 T 08 CLUD 6 AMT 6 WEATHER 01													
0	12.23	32.402	6.49	.45			.1	0	12.23	32.41	24.56	339.4	0
10	12.04	32.444	6.54	.46			.1	10	12.04	32.45	24.63	333.1	.0034
20	11.29	32.626	6.77	.46			.1	20	11.29	32.63	24.91	306.4	.0066
30	11.04	32.634	6.49	.48			.3	30	11.04	32.64	24.94	302.1	.0066
50	10.65	32.631	6.50	.60			1.3	50	10.65	32.64	25.02	294.1	.0154
75	9.43	32.860	5.64	1.16			9.5	75	9.43	32.87	25.41	260.1	.0225
100	8.94	33.354	4.24	1.58			14.4	100	8.94	33.36	25.87	218.4	.0285
125	8.76	33.672	3.29	2.11			24.5	150	8.44	33.79	26.28	178.0	.0344
150	8.44	33.783	2.94				25.6	200	7.72	33.95	26.52	154.2	.0467
200	7.72	33.948	2.62	2.32			30.2	250	7.12	34.02	26.65	143.9	.0472
300	6.60	34.037	2.10	2.67			35.0	300	6.40	34.04	26.74	135.4	.0412
400	5.76	34.041	1.18	3.01			38.6	400	5.77	34.09	26.89	123.1	.041
500	5.24	34.145	.76	3.31			40.7	500	5.10	34.15	26.99	113.2	.0459
600	4.84	34.217	.42	3.48			42.1	600	4.89	34.22	27.10	104.5	.0444
800	4.24	34.339	.25				43.4	700	4.56	34.28	27.18	94.7	.0449
1000	3.69	34.410	.34				43.6	800	4.29	34.34	27.26	82.7	.0462
1200	3.22	34.470	.88				44.0	1000	3.70	34.42	27.38	79.7	.0431
								1200	3.22	34.47	27.47	70.4	.0441

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn.m)
CH 85 43 20.2 N 125 42.7 W DATE 14 MAY 69 2354 OCT WIRE 09 DRY 54.5 WET 52.7 CRUISE Y69054													
WIND DIRECTION 24 VEL 12 KTS BAR 16 SWELL DIRECTION 25 H 03 T 06 CLCUD 5 AMT 0 WEATHER 02													
0	11.68	32.561	6.54	.40			.4	0	11.68	32.57	24.79	317.9	0
10	11.67	32.568	6.54	.57			.3	10	11.67	32.57	24.79	317.4	.032
20	11.51	32.595	6.61	.39			.3	20	11.51	32.60	24.84	312.4	.063
30	10.66	32.578	6.74	.42			.3	30	10.66	32.54	24.95	302.8	.094
50	9.45	32.497	6.65	.45			.9	50	9.45	32.50	25.12	284.9	.153
75	8.64	32.528	6.49	.72			3.2	75	8.64	32.53	25.27	272.8	.223
100	7.44	32.837	6.78	1.10			10.4	100	7.44	32.84	25.42	240.2	.287
124	7.91	33.526	6.21	1.75			21.3	150	7.91	33.78	26.37	169.1	.384
149	7.42	33.776	7.91	1.99			23.8	200	7.19	33.90	26.56	152.4	.470
199	7.21	33.906	7.60	2.31			22.1	250	6.44	33.94	26.68	140.7	.543
299	5.94	33.953	2.54	2.30				300	5.83	33.95	26.77	132.4	.611
398	5.49	34.093	1.15					400	5.48	34.09	26.93	119.1	.737
498	4.97	34.152	.70					500	4.96	34.15	27.04	105.9	.851
597	4.68	34.229	.49					600	4.67	34.23	27.13	101.3	.940
797	4.03	34.324	.25					700	4.36	34.28	27.21	94.1	1.054
996	3.56	34.416	.26	3.40			34.2	800	4.07	34.33	27.27	88.0	1.145
1195	3.13	34.475	.42					1000	3.55	34.42	27.40	77.4	1.310
								1200	3.12	34.48	27.48	69.2	1.456

CH 85 43 20.0 N 124 20.0 W DATE 19 MAY 69 1544 OCT WIRE 09 DRY 52.0 WET 52.0 CRUISE Y69054													
WIND DIRECTION 27 VEL 04 KTS BAR 18 SWELL DIRECTION 27 H 04 T 03 CLCUD 7 AMT 8 WEATHER 10													
0	11.04	32.439	6.68	.57			1.5	0	11.04	32.44	24.81	316.0	0
10	11.04	32.438	6.70	.74			2.0	10	11.04	32.44	24.81	316.2	.032
20	10.96	32.443	6.71	.76			1.9	20	10.96	32.45	24.82	314.7	.063
30	9.82	32.444	6.85	.76			2.4	30	9.82	32.45	25.02	294.1	.094
50	8.98	32.438	6.82	.76			2.8	50	8.98	32.44	25.15	284.2	.152
75	8.42	32.528	6.45	.90			5.2	75	8.42	32.53	25.30	269.7	.22
100	7.95	33.011	6.26				12.5	100	7.95	33.02	25.75	227.5	.28
125	7.83	33.450	6.28					150	7.84	33.72	26.32	174.1	.383
150	7.84	33.719	7.44				24.7	200	7.21	33.92	26.56	151.7	.465
200	7.21	33.913	7.94				29.0	250	6.63	33.98	26.69	139.9	.539
300	6.10	33.991	1.91				34.8	300	6.10	34.00	26.77	132.7	.606
400	5.11	34.003	1.50				7.0	400	5.11	34.01	26.90	121.1	.733
500	4.76	34.101	.85				40.3	500	4.77	34.11	27.02	110.1	.848
599	4.50	34.200	.40				41.1	600	4.50	34.20	27.13	101.5	.954
799	3.94	34.306	.25				42.4	700	4.21	34.26	27.20	94.2	1.052
999	3.50	34.406	.28				42.3	800	3.94	34.31	27.27	88.4	1.143
1199	3.09	34.468	.45				42.1	1000	3.50	34.41	27.39	77.6	1.309
								1200	3.09	34.47	27.48	69.4	1.456

CH 105 43 21.5 N 124 47.0 W DATE 19 MAY 69 1934 OCT WIRE 05 DRY 55.0 WET 53.1 CRUISE Y69054													
WIND DIRECTION 27 VEL 04 KTS BAR 20 SWELL DIRECTION 25 H 04 T 03 CLCUD 7 AMT 8 WEATHER 02													
0	11.12	32.418					1.6	0	11.13	32.42	24.78	318.9	0
10	10.99	32.420					1.6	10	10.89	32.42	24.82	315.0	.032
20	10.27	32.431					1.6	20	10.27	32.44	24.93	304.2	.063
30	9.52	32.433					1.7	30	9.52	32.44	25.06	292.4	.092
50	9.00	32.447					1.7	50	9.00	32.45	25.15	283.8	.150
75	8.16	32.542					5.5	75	8.16	32.55	25.35	254.9	.219
100	7.63	33.331					18.8	100	7.64	33.34	26.05	199.2	.277
125	7.75	33.634					22.0	150	7.60	33.83	26.44	162.7	.367
150	7.60	33.826					24.2	200	7.12	33.95	26.60	148.0	.445
200		33.945					28.0	250	6.62	34.00	26.71	138.4	.514
300	6.10	34.024					28.2	300	6.10	34.03	26.80	130.3	.584
400	5.47	34.076						400	5.47	34.08	26.92	120.0	.709
500	4.98	34.148					39.8	500	4.98	34.15	27.03	109.2	.823
599	4.58	34.217						600	4.58	34.22	27.13	101.1	.924
799	3.98	34.317					42.3	700	4.24	34.27	27.21	94.1	1.025
999	3.40	34.418					38.6	800	3.98	34.32	27.27	88.1	1.117
1199	2.96	34.476					41.8	1000	3.40	34.42	27.41	75.4	1.280
								1200	2.96	34.48	27.50	67.3	1.423

CH 125 43 20.1 N 127 13.9 W DATE 19 MAY 69 2254 OCT WIRE 09 DRY 53.1 WET 52.0 CRUISE Y69054													
WIND DIRECTION 28 VEL 04 KTS BAR 21 SWELL DIRECTION 25 H 03 T 10 CLCUD 3 AMT 7 WEATHER 03													
0	11.50	32.442	6.61	.59			1.1	0	11.50	32.47	24.74	322.1	0
10	10.94	32.455	6.62	.56			1.6	10	10.94	32.46	24.84	317.2	.032
20	10.35	32.457	6.78	.57			1.5	20	10.35	32.46	24.94	307.6	.063
30	9.92	32.457	6.80	.58			2.1	30	9.92	32.46	25.01	296.9	.093
50	9.14	32.469	6.77	.65			3.2	50	9.14	32.47	25.15	284.1	.151
75	8.52	32.483	6.59	.76			5.1	75	8.52	32.48	25.25	274.7	.221
100	7.91	32.947	6.37	1.17			15.1	100	7.92	32.99	25.75	227.1	.283
125	7.69	33.543	6.09	1.50			23.6	150	7.59	33.74	26.37	169.7	.383
150	7.59	33.730	3.60	1.74			32.8	200	7.11	33.92	26.58	150.3	.463
199		33.919	7.01	1.83			36.9	250	6.62	34.00	26.71	138.1	.535
299	6.06	34.027	1.72	2.01			37.0	300	6.05	34.03	26.80	129.7	.602
399	5.40	34.073	.47	2.54			44.0	400	5.39	34.09	26.94	118.1	.725
499	4.95	34.151	.57	2.77			45.7	500	4.95	34.15	27.04	108.0	.839
599	4.56	34.213	.76	2.88			46.2	600	4.54	34.21	27.13	101.2	.944
798	4.02	34.317	.25	2.99			46.8	700	4.27	34.27	27.20	94.5	1.042
998	3.74	34.415	.24	3.04			47.6	800	4.01	34.32	27.27	88.4	1.133
1197	3.02	34.479	0.54					1000	3.78	34.42	27.41	75.5	1.297
								1200	3.01	34.48	27.50	67.7	1.440

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
CH 145 43 20.1 N 127 41.1 W DATE 20 MAY 69 0221 OCT WIRE 00 DRY 51.9 WET 50.0 CRUISE Y60054													
WIND DIRECTION 29 VEL 04 KTS BAR 21 SWELL DIR CTION 27 H 03 T 10 CLUD 6 AMT 1 WEATHER 03													
0	11.34	32.459	4.59	.68			.5	0	11.34	32.46	24.77	319.6	0
10	11.01	32.462	4.62	.69			.2	10	11.01	32.47	24.83	313.9	.132
20	10.74	32.467	4.74	.65			.1	20	10.74	32.46	24.94	303.4	.143
30	9.81	32.467	4.76	.73			.1	30	9.81	32.47	25.04	294.4	.142
50	8.86	32.465	4.67	.72			.1	50	8.84	32.47	25.19	284.4	.141
75	8.18	32.533	4.34	.84			1.7	75	8.18	32.54	25.34	264.9	.214
100	7.73	33.041	4.44	1.25			9.2	100	7.73	33.05	25.41	229.2	.279
125	7.83	33.663	4.06	1.61			18.2	150	7.72	33.83	24.43	154.1	.176
149	7.73	33.831	3.43	1.93			27.4	200	7.03	33.89	26.57	151.0	.454
199	7.04	33.192	3.68					250	6.40	33.96	26.68	141.1	.457
299	6.25	34.111	1.86	2.61				300	6.24	34.01	26.77	133.3	.456
399	5.30	34.019	1.49	2.83				400	5.29	34.02	26.89	122.2	.774
499	4.97	34.128	.74					500	4.96	34.13	27.02	110.7	.440
598	4.64	34.202	.52					600	4.63	34.20	27.11	102.9	.447
797	4.07	34.320	.38	3.22				700	4.34	34.27	27.19	94.5	1.044
996	3.47	34.427	.38	3.33				800	4.06	34.32	27.27	84.7	1.134
1195	2.99	34.480	.75	3.31				1000	3.46	34.43	27.41	75.4	1.222
								1200	2.98	34.48	27.50	67.2	1.445

CH 165 43 20.1 N 127 55.0 W DATE 20 MAY 69 0545 OCT WIRE 58 DRY 51.1 WET 50.2 CRUISE Y60054													
WIND DIRECTION VEL KTS BAR SWELL DIRECTION H T CLUD AMT WEATHER													
0	11.27	32.454	4.61	.66			.7	0	11.27	32.46	24.78	314.5	0
10	11.26	32.456	4.62					10	11.26	32.46	24.78	314.5	.132
20	10.85	32.476	4.70	.64			.6	20	10.85	32.48	24.87	310.4	.143
30	10.46	32.495	4.72	.65			.5	30	10.46	32.50	24.95	302.7	.144
50	9.80	32.496	4.70	.70			1.1	50	9.80	32.50	25.06	292.4	.143
75	9.27	32.615	4.30	.83			3.9	75	9.27	32.62	25.24	275.8	.224
100	8.50	33.231	4.91	1.33			15.0	100	8.50	33.21	25.82	221.2	.257
125	8.11	33.652	3.95	1.70			22.2	150	7.76	33.85	26.43	152.7	.143
150	7.75	33.841	3.37	1.91			25.7	200	7.28	33.95	26.58	150.4	.441
200	7.27	33.941	2.77	2.12			29.0	250	6.77	33.98	26.67	141.9	.434
299	6.31		1.88	2.52			34.9	300	6.30	34.00	26.75	134.7	.433
399	5.56	34.010	1.13	2.74			39.2	400	5.45	34.01	26.85	124.2	.714
499	5.09	34.076	.72	2.94			41.3	500	5.09	34.08	26.96	114.1	.655
599	4.71	34.137	.34	2.98			42.1	600	4.71	34.14	27.05	104.4	.447
798	4.15	34.206	0.76					700	4.41	34.17	27.11	103.1	1.073
998	3.59	34.328	0.34					800	4.14	34.21	27.17	94.7	1.174
1197	3.09	34.431	0.78					1000	3.58	34.33	27.32	84.4	1.155
								1200	3.08	34.43	27.45	72.0	1.412

NH 65 45 39.0 N 125 35.2 W DATE 02 JUN 69 0214 OCT WIRE 10 DRY 57.0 WET 56.5 CRUISE Y60044													
WIND DIRECTION 00 VEL 14 KTS BAR 14 SWELL DIRECTION 00 H 03 T 05 CLUD AMT 0 WEATHER 01													
0	12.69	32.240						0	12.69	32.25	24.35	359.7	0
10	12.66	32.258	4.13					10	12.66	32.26	24.37	355.0	.136
20	12.19	32.531						20	12.19	32.54	24.67	329.4	.170
30	10.38	32.544						30	10.38	32.55	25.00	297.8	.142
49	9.47	32.567						50	9.44	32.57	25.17	281.8	.140
74	9.31	32.730	5.99					75	9.29	32.75	25.34	264.8	.224
100	8.80		4.16					100	8.80	33.12	25.71	231.8	.200
149	8.23	33.824	3.34					150	8.21	33.83	26.35	171.2	.151
200	7.25	33.915	3.41					200	7.26	33.92	26.56	152.1	.172
249	7.01	33.007	2.81					250	7.00	33.02	25.89	114.2	.444
300	6.59	34.034	1.79					300	6.59	34.04	26.74	135.9	.452
400	5.53	34.070	1.50					400	5.54	34.08	26.91	121.2	.750
500	5.13	34.142	0.90					500	5.14	34.15	27.01	111.4	.457
600	4.69	34.218	0.64					600	4.69	34.22	27.12	102.1	1.044
799	4.10	34.331	0.42					700	4.36	34.28	27.20	94.6	1.122
999	3.67	34.405	0.55					800	4.10	34.33	27.27	84.4	1.153
1199	3.10	34.468	0.72					1000	3.67	34.41	27.37	74.7	1.241
								1200	3.10	34.47	27.48	64.5	1.413

NH 65 44 49.3 N 125 36.5 W DATE 04 JUN 69 1710 OCT WIRE 00 DRY 57.0 WET 56.5 CRUISE Y60044													
WIND DIRECTION 16 VEL 10 KTS BAR 14 SWELL DIRECTION 27 H 03 T 07 CLUD 6 AMT 4 WEATHER 02													
0	13.34	31.874						0	13.34	31.88	23.94	398.7	0
10	13.00	31.854						10	13.00	31.86	23.99	394.0	.140
20	12.78	31.923						20	12.78	31.93	24.09	384.1	.179
30	9.62	32.491	4.98					30	9.63	32.50	25.08	249.7	.112
49	9.46	32.571	4.65					50	9.43	32.57	25.18	241.3	.149
74	8.92	32.634	4.23					75	8.93	32.64	25.32	237.7	.218
99	9.21	33.314	4.31					100	9.21	33.33	25.81	222.4	.254
149	8.60	33.817	2.51					150	8.58	33.82	26.24	177.4	.144
199	7.56	33.889	1.36					200	7.54	33.84	26.50	158.3	.443
249	6.92	33.934	2.45					250	6.90	33.94	26.62	144.8	.444
298	6.55	33.999	2.17					300	6.53	34.00	26.72	132.0	.431
398	5.76	34.704	1.40					400	5.75	34.05	26.86	125.7	.742
497	5.13	34.127	0.91					500	5.12	34.13	27.00	112.6	.431
597	4.79	34.182	0.75					600	4.78	34.18	27.08	104.1	.451
795	4.21	34.304	0.41					700	4.48	34.25	27.17	94.3	1.043
994	3.69	34.400	0.42					800	4.20	34.31	27.25	91.1	1.184
1193	3.12	34.462	1.01					1000	3.67	34.40	27.37	80.0	1.258
								1200	3.10	34.46	27.48	64.8	1.458

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	D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃		Z	T	S	σ_t	δ	ΔD
	(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)		(m)	(°C)	(‰)		($\times 10^3$)	($\delta \mu$ m)
DB 5	44	49.8	124	10.0	W	DATE 19 JUN 69	0420	ACT WIRE	DRY 57.5	WET 56.0	CRUISE 1690AC				
WIND DIRECTION	17	VEL	14	KTS	BAR 14	SWELL DIRECTION	12	M 04	T 07	CLCUD	7	AMT	A	WEATHER	

0	31.364	6.49	.47	.1
10	32.214	6.55		5.3
20	32.546	6.57	1.09	9.9
30	33.052	6.26	1.58	17.8
50	33.710	7.97	2.05	26.4

DB 10	44	51.6	N	124	17.2	W	DATE 19 JUL 69	1811	ACT WIRE 05	DRY 59.5	WET 59.0	CRUISE 1690AC		
WIND DIRECTION	22	VEL	10	KTS	BAR 14	SWELL DIRECTION	31	M 03	T 07	CLCUD	6	AMT	A	WEATHER 12

0	29.276	5.98	.14	8.26	2.15	.1
3	31.276	6.65	.17	8.25	2.25	.1
6	31.493	6.69	.18	8.24	2.26	.1
10	32.044	5.82	.28	8.23	2.28	.3
15	32.281	6.64	.31	8.21	2.28	.5
20	32.438	6.89	.26	8.23	2.28	1.2
30	32.512	6.56	.33	8.19	2.28	3.8
50	32.909	4.96	.56	8.06	2.30	16.3
75	33.499	4.08	.69	7.97	2.31	23.1
100	33.704	3.66	.75	7.93	2.31	26.4

DB 15	44	53.7	N	124	22.8	W	DATE 19 JUN 69	2020	ACT WIRE 00	DRY	WET	CRUISE 1690AC		
WIND DIRECTION	21	VEL	10	KTS	BAR 14	SWELL DIRECTION	31	M 03	T 08	CLCUD	6	AMT	A	WEATHER 12

0	28.415	5.88	.31	8.25	2.15	.1
3	28.796	5.38	.26	8.26	2.23	.1
6	31.345	6.28	.31	8.24	2.33	.1
10	31.921	6.65	.30	8.23	2.34	.1
15	32.172	6.93	.31	8.24	2.34	.1
20	32.430	7.23	.37	8.24	2.36	.1
30	32.460	6.73	.52	8.20	2.34	2.1
50	32.483	6.49	.64	8.18	2.34	5.4
75	32.921	5.32	.96	8.10	2.37	13.4
100	33.576	3.77	1.39	7.95	2.39	23.7
125	33.848	2.45	1.76	7.82	2.42	30.9
150	33.890	2.30	1.80	7.75	2.42	32.1

DB 25	44	57.2	N	124	36.7	W	DATE 19 JUN 69	2312	ACT WIRE 02	DRY 59.5	WET 57.5	CRUISE 1690AC		
WIND DIRECTION	28	VEL	08	KTS	BAR 13	SWELL DIRECTION	31	M 03	T 10	CLCUD	6	AMT	A	WEATHER 02

0	27.398	5.96				.1
3	27.597	6.00				.1
6	29.218	6.08				.4
10	31.446	6.66				.1
15	32.139	7.11				.2
20	32.395	7.32				.2
30	32.459	6.99				1.2
50	32.475	6.53				3.1
75	32.948	5.28				10.4
100	33.505	3.96				
125	33.804	3.18				18.7
150	33.892	2.94				27.2
200	33.940	2.87				

DB 40	45	02.6	N	124	56.4	W	DATE 20 JUN 69	0140	ACT WIRE 00	DRY 58.0	WET 56.5	CRUISE 1690AC		
WIND DIRECTION	31	VEL	08	KTS	BAR 12	SWELL DIRECTION	29	M 04	T 10	CLCUD	6	AMT	A	WEATHER 02

0	26.981	5.98	.18	8.25	2.03	.1
3	27.070	6.00	.20	8.25	2.05	.1
6	27.671	6.04	.21	8.25	2.07	.1
10	30.987	6.43	.25	8.26	2.21	.1
15	31.917	6.93	.30	8.24	2.25	.1
20	32.186	7.05	.37	8.25	2.26	.2
30	32.405	7.14	.38	8.28	2.26	.3
50	32.500	6.65	.64	8.20	2.26	4.1
75	32.599	6.19	.76	8.13	2.26	8.2
100	33.198	4.57	1.13	8.02	2.28	14.2
125	33.625	3.67	1.36	7.96	2.31	25.3
150	33.875	2.94	1.54	7.89	2.17	28.9
200	33.942	2.61	1.67	7.86	2.33	32.4

DB 55	45	09.2	N	125	15.0	W	DATE 20 JUN 69	1340	ACT WIRE 00	DRY 56.0	WET 54.0	CRUISE 1690AC		
WIND DIRECTION	32	VEL	10	KTS	BAR 14	SWELL DIRECTION	30	M 04	T 06	CLCUD	6	AMT	A	WEATHER 02

0	28.902	5.97	.18	8.23	2.09	.1
3	29.360	6.07	.22	8.24	2.11	.1
6	30.274	6.15	.24	8.24	2.14	.1
10	31.281	6.19	.27	8.25	2.19	.1
15	32.420	6.77	.30	8.26	2.23	.2
20	32.447	6.93	.34	8.28	2.23	.2
30	32.479	7.14	.41	8.26	2.21	.3
50	32.447	6.73	.56	8.23	2.23	1.4
75	32.467	6.18	.76	8.17	2.23	6.2
100	33.187	4.82	1.09	8.04	2.23	13.8
125	33.539	3.44	1.38	7.98	2.26	20.3
150	33.808	3.11	1.56	7.92	2.30	24.3
200	33.927	2.97	1.70	7.90	2.30	27.6

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
DR 75 45 16.3 N 125 41.6 W DATE 20 JUN 1945 RCT WIRE 00 DRY 54.0 WET 55.0 CRUISE Y6906C													
WIND DIRECTION 30 VEL 10 KTS BAR 16 SWELL DIRECTION 31 H 04 T 06 CLUD 6 AMT 4 WEATHER 02													
0		31.376	6.10	.41	8.23	2.30	.1						
3		31.486	6.05	.40	8.23	2.28	.1						
6		31.650	6.05	.40	8.23	2.28	.1						
10		32.110	6.27	.41	8.25	2.30	.1						
15		32.347		.47	8.24	2.31	.1						
20		32.60		.44	8.27	2.31	.1						
30		32.649	7.30	.57	8.27	2.31	.1						
50		32.668	6.61	.94	8.26	2.31	5.3						
75		32.874	6.14	1.11			9.8						
100		33.461	4.13	1.66	8.13	2.33	18.5						
125		33.604	3.56	1.96			23.0						
150		33.719	3.38	2.02	7.92	2.37	3.9						
200		33.925	3.00	2.22	7.86	2.37	27.8						

DR 95 45 23.8 N 126 07.2 W DATE 20 JUN 69 2145 RCT WIRE 05 DRY 57.0 WET 54.0 CRUISE Y6906C													
WIND DIRECTION 30 VEL 12 KTS BAR 17 SWELL DIRECTION 32 H 04 T 06 CLUD 6 AMT 4 WEATHER 02													
0		31.984	6.20	.31	8.24	2.30	.1						
3		31.985	6.15	.33	8.24	2.30	.1						
6		31.984	6.17	.33	8.24	2.30	.1						
10		31.988	6.18	.33	8.25	2.28	.1						
15		32.046	6.26	.37	8.24	2.28	.1						
20		32.397	6.73	.39	8.25	2.30	.1						
30		32.671	7.38	.44	8.26	2.14	.1						
50		32.678	6.57	.77	8.21	2.30	4.9						
75		32.730	6.38	.87	8.19	2.30	6.1						
100		32.845	5.84	1.11	8.13	2.30	10.5						
125		33.411	4.16	1.70	8.00	2.33	19.5						
150		33.696	3.43	1.97	7.92	2.34	24.5						
200		33.891	2.92	2.14	7.89	2.36	27.4						

DR 115 45 30.9 N 126 33.8 W DATE 21 JUN 69 0027 RCT WIRE 05 DRY 56.0 WET 54.0 CRUISE Y6906C													
WIND DIRECTION 32 VEL 12 KTS BAR 17 SWELL DIRECTION 32 H 06 T 06 CLUD 6 AMT 4 WEATHER 02													
0		31.992	6.17	.47	8.24	2.19	.2						
3		31.993		.45	8.24	2.19	.1						
6		31.993	6.17	.49	8.25	2.19	.1						
10		31.994	6.20	.50	8.25	2.19	.1						
15		32.221	6.61	.53	8.26	2.17	.1						
20		32.486	7.06	.52	8.26	2.21	.1						
30		32.638	7.23	.60	8.28	2.23	.1						
50		32.679	6.60	.73	8.22	2.23	5.6						
75		32.721	6.38	.93	8.19	2.23	6.5						
100	9.39	33.112	5.08	1.47	8.06	2.25	14.3						
125		33.490	3.93	1.83	7.98	2.26	20.2						
150		33.680	3.40	2.03	7.93	2.29	23.4						
200		32.953			8.13	2.25							

DR 135 45 38.5 N 127 00.1 W DATE 21 JUN 69 0335 RCT WIRE 01 DRY 55.0 WET 53.0 CRUISE Y6906C													
WIND DIRECTION 33 VEL 13 KTS BAR 18 SWELL DIRECTION 34 H 04 T 06 CLUD 6 AMT 4 WEATHER 02													
0		32.114	6.17	.46	8.23	2.30	.1						
3		32.113	6.18	.52	8.23	2.28	.1						
6		32.118	6.18	.47	8.24	2.28	.1						
10		32.219	6.28	.47	8.24	2.28	.1						
15		32.412	6.73	.51	8.23	2.30	.1						
20		32.391	6.94	.49	8.25	2.28	.1						
30		32.423	7.13	.53	8.25	2.28	.1						
50		32.454	6.94	.76	8.23	2.30	2.7						
75		32.512	6.59	.87	8.21	2.30	5.0						
100		32.942	5.51	1.37	8.10	2.31	13.3						
125		33.502	4.34	1.87	7.99	2.34	20.9						
150		33.759	3.83	2.07	7.95	2.34	24.1						
200		33.955	2.97	2.42	7.87	2.39	28.5						

A 35 45 50.0 N 126 29.5 W DATE 21 JUN 69 1323 RCT WIRE 02 DRY 54.0 WET 54.5 CRUISE Y6906C													
WIND DIRECTION 30 VEL 10 KTS BAR 19 SWELL DIRECTION 32 H 04 T 06 CLUD 6 AMT 4 WEATHER 02													
0	14.22	31.936	6.14	.45	8.23	2.26	.2						
3		31.936	6.13	.44	8.24	2.26	.1						
6		31.938	6.13	.40	8.24	2.26	.1						
10		31.938	6.14	.44	8.25	2.26	.1						
15		31.947	6.17	.40	8.25	2.26	.1						
20		31.986	6.20	.36	8.24	2.25	.1						
30		32.486	7.22	.42	8.24	2.37	.1						
50		32.667	6.84	.68	8.24	2.34	2.9						
75		32.717	6.44	.83	8.20	2.34	5.9						
100	9.33	32.945	5.61	1.18	8.12	2.34	11.5						
125		33.466	4.04	1.73	7.98	2.36	20.1						
150		33.710	3.30	1.98	7.93	2.36	21.4						
200		33.917	2.87	2.17	7.89	2.39	28.2						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn/m)
C 37 45 52.8 N 124 00.2 W DATE 21 JUN 69 1710 GCT WIRE 02 DRY 54.8 WET 56.1 CRUISE Y690AC													
WIND DIRECTION 27 VEL 07 KTS BAR 20 SWELL DIRECTION 12 M 03 T 07 CLCUD 6 AMT A WEATHER 02													
0		31.673	6.04	.85	8.25	2.23	.1						
3		31.716	5.97	.71	8.25	2.23	.1						
6		31.759	6.11	.38	8.26	2.23	.1						
10		32.302	6.27	.41	8.26	2.25	.1						
15		32.325	6.24	.43	8.26	2.25	.1						
20		32.366	6.50	.43	8.26	2.26	.2						
30		32.469	7.27	.49	8.30	2.26	.2						
50		32.603	6.84	.72	8.25	2.26	2.9						
75		32.804	6.54	.86	8.23	2.26	5.3						
100		33.073	5.21	1.35	8.11	2.28	13.4						
125		32.576	3.50	1.86	7.97	2.31	21.4						
150		33.695	3.56	1.91	7.97	2.31	23.7						
200		33.933	2.91	2.18	7.91	2.34	27.6						
C 41 45 45.1 N 125 32.8 W DATE 21 JUN 69 2045 GCT WIRE 00 DRY 59.0 WET 57.5 CRUISE Y690AC													
WIND DIRECTION 27 VEL 10 KTS BAR 21 SWELL DIRECTION 12 M 04 T 07 CLCUD 6 AMT A WEATHER 02													
0		30.956	6.07	.37	8.26	2.19	.1						
3		31.078	6.07	.38	8.25	2.19	.1						
6		32.260	6.20	.42	8.25	2.25	.1						
10		32.228	6.30	.45	8.26	2.25	.1						
15		32.354	6.34	.47	8.26	2.25	.1						
20		32.514	6.65	.49	8.27	2.25	.1						
30		32.541	6.80	.54	8.24	2.25	.1						
50		32.543	6.90	.64	8.18	2.25	1.5						
75		32.724	6.02	.89	8.02	2.25	7.8						
100		33.351	4.34	1.63	7.95	2.28	18.1						
125		33.656	3.66	1.96	7.94	2.30	22.9						
150		33.797	3.47		7.89	2.31	24.2						
200		33.936	2.92	2.23	8.26	2.33	26.4						
C 45 45 38.5 N 125 06.8 W DATE 21 JUN 69 2337 GCT WIRE 05 DRY 60.0 WET 58.6 CRUISE Y690AC													
WIND DIRECTION 28 VEL 10 KTS BAR 21 SWELL DIRECTION 10 M 03 T 08 CLCUD 4 AMT 7 WEATHER 01													
0	16.78	23.938	6.14	.36	8.26	1.94	.1						
3		30.749	6.12	.39	8.25	2.25	.1						
6		31.328	6.20	.42	8.25	2.26	.1						
10		31.440	6.20	.42	8.26	2.27	.1						
15		32.251	6.53	.44	8.25	2.28	.1						
20		32.373	6.90	.49	8.27	2.28	.1						
30		32.494	6.90	.49	8.28	2.28	.1						
50		32.558	6.88	.68	8.25	2.30	2.4						
75		32.778	5.94	1.02	8.17	2.31	8.9						
100	9.06	33.363	4.33	1.53	8.03	2.33	18.2						
125		33.573	4.06	1.70	7.99	2.34	21.4						
150		33.705	4.13	1.76	7.99	2.34	22.2						
200		33.885	3.32	2.04	7.93	2.37	27.2						
A 47 45 35.0 N 124 53.9 W DATE 22 JUN 69 0215 GCT WIRE 07 DRY 60.2 WET 58.9 CRUISE Y690AC													
WIND DIRECTION 30 VEL 12 KTS BAR 20 SWELL DIRECTION 10 M 03 T 06 CLCUD 6 AMT 8 WEATHER 02													
0	16.84	21.439	6.30	.35	8.29	1.81	.1						
3		21.638	6.27	.37	8.31	1.83	.1						
6		31.743	6.59	.45	8.25	2.26	.1						
10		32.213	6.84	.45	8.28	2.28	.1						
15		32.348	6.93	.46	8.27	2.28	.1						
20		32.391	6.94	.53	8.29	2.28	.1						
30		32.477	7.07	.62	8.27	2.30	1.2						
50		32.435	6.76	.83	8.21	2.28	3.8						
75		32.515		.92	8.20	2.28	6.7						
100	7.42	32.988	5.36	1.36	8.09	2.30	14.6						
125		33.478	4.37	1.73	8.01	2.34	21.0						
150		33.759	4.56	1.92	7.95	2.35	24.5						
200		33.949	1.96	2.17	7.87	2.37	27.7						
A 54 45 54.0 N 124 30.3 W DATE 22 JUN 69 1314 GCT WIRE 06 DRY 57.9 WET 57.9 CRUISE Y690AC													
WIND DIRECTION 23 VEL 12 KTS BAR 17 SWELL DIRECTION 26 M 02 T 06 CLCUD 6 AMT 8 WEATHER 02													
0	16.21	22.747	6.36	.28	8.27	1.91	.1						
3		25.328	6.12	.25	8.30	2.01	.1						
6		29.506	6.23	.27	8.28	2.17	.1						
10		32.190	6.44	.31	8.23	2.24	.1						
15		32.368	6.76	.44	8.21	2.24	.1						
20		32.397	6.92	.54	8.25	2.28	.1						
30		32.476	6.84	.97	8.22	2.29	3.7						
50		32.576	6.24	1.17	8.19	2.30	6.3						
75		33.195	4.62		8.14	2.31	14.3						
100	7.98	33.697	3.19		8.01	2.34	25.7						
125		33.876	2.67		7.90	2.36	27.0						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
C 56 44 00.8 N 124 41.0 W DATE 22 JUN 69 1640 GCT WIRE 01 DRY 59.0 WET 57.4 CRUISE Y6906C													
WIND DIRECTION 27 VEL 10 KTS BAR 18 SWELL DIRECTION 29 H 02 T 05 CLUD 6 AMT 8 WEATHER 02													
0		28.712											
3		28.740											
6		28.932											
10		30.929											
15		32.240											
20		32.403											
30		32.447											
50		32.506											
75		33.073											
100		33.528											
125		33.826											
150		33.921											
200		33.963											
C 59 44 10.8 N 124 57.0 W DATE 22 JUN 69 1943 GCT WIRE 00 DRY 58.7 WET 58.0 CRUISE Y6906C													
WIND DIRECTION 24 VEL 10 KTS BAR 18 SWELL DIRECTION 29 H 02 T 06 CLUD 6 AMT 8 WEATHER 02													
0	15.43	29.753						0	15.43	29.76	21.68	595.7	0
3	15.38	29.845						10	13.04	31.74	23.89	407.4	.050
6	14.86	30.317						20	11.92	32.33	24.56	340.1	.087
10	13.04	31.737						30	10.15	32.43	24.95	302.7	.119
15	12.50	32.177						50	8.57	32.51	25.27	277.0	.177
20	11.92	32.323	4.71	.17	8.26	2.31		75	8.26	32.61	25.39	261.4	.244
30	10.15	32.427	7.00	.24	8.26	2.31	.1	100	8.23	33.26	25.90	213.2	.303
50	8.57	32.508	4.54	.54	8.21	2.31	3.6	150	7.94	33.83	26.39	167.8	.398
75	8.26	32.609	4.16	.70	8.18	2.31	6.8	200	6.78	33.92	26.63	145.6	.476
100	8.23	33.256	4.48	1.28	8.00	2.39	10.3						
125	8.23	33.556	3.75	1.57	7.96	2.40	10.5						
150	7.94	33.822	3.18	1.80	7.91	2.40	10.5						
200	6.78	33.921	3.11										
C 62 44 10.6 N 124 35.7 W DATE 22 JUN 69 2200 GCT WIRE 05 DRY 59.0 WET 58.7 CRUISE Y6906C													
WIND DIRECTION 23 VEL 12 KTS BAR 18 SWELL DIRECTION 29 H 02 T 07 CLUD 6 AMT 8 WEATHER 02													
0	16.19	26.812	4.12	.30	8.29	2.09	.4	0	16.19	26.82	19.46	827.2	0
3	16.03	26.722	4.12		8.29	2.07	.4	10	12.99	31.78	23.93	390.5	.061
6	14.82	30.603	4.26		8.26	2.25	.3	20	11.01	32.38	24.76	320.6	.097
10	12.99	31.777	4.59	1.24	8.28	2.30	.1	30	8.67	32.49	25.23	275.7	.127
15	11.62	32.287	4.77	1.28	8.27	2.31	.1	50	7.89	32.47	25.33	264.7	.181
20	11.01	32.374	4.85		8.27	2.31	.1	75	8.25	33.28	25.91	211.8	.241
30	8.67	32.487	6.97	1.37	8.24	2.33	2.3	100	8.03	33.66	26.24	180.8	.290
50	7.88	32.461	4.71		8.21	2.31	5.3	150	7.13	33.92	26.58	149.5	.373
75	8.25	33.274	4.00	1.61	7.99	2.36	16.6	200	7.02	33.93	26.60	148.0	.447
100	8.03	33.654	3.41	1.90	7.93	2.37	20.2						
125	7.75	33.805	2.95	2.07	7.88	2.39	22.5						
150	7.12	33.916	2.76	2.22	7.87	2.39	24.1						
200	7.02	33.932	2.13	2.72	7.80	2.39							
C 64 46 10.8 N 124 19.8 W DATE 23 JUN 69 0028 GCT WIRE DRY 58.8 WET 58.8 CRUISE Y6906C													
WIND DIRECTION 24 VEL 12 KTS BAR 18 SWELL DIRECTION 29 H 03 T 07 CLUD 6 AMT 8 WEATHER 02													
0	16.50	11.948	4.61	.78	8.19	1.35	1.0	0	16.50	11.95	8.07	1935.9	0
3	16.38	13.622	4.45	.84	8.19	1.46	1.0	10	13.39	29.69	22.24	561.7	.125
6	15.40	23.661	4.96	.65	8.21	1.91	.9	20	9.57	32.28	24.92	305.0	.148
10	13.39	29.680	4.04	.55	8.21	2.17	.9	30	8.83	32.67	25.35	264.5	.197
15	10.48	31.013	4.43	.45	8.23	2.25	.1	50	8.20	33.42	26.03	200.3	.243
20	9.57	32.272	4.73	.68	8.18	2.26	2.1	75	7.73	33.83	26.42	161.1	.289
30	8.83	32.669	4.44	1.66	8.04	2.28	11.7	100	7.08	33.94	26.60	144.9	.327
50	8.20	33.415	2.84	2.40	7.85	2.31	22.8						
75	7.73	33.830	2.87	2.46	7.87	2.33	27.7						
100	7.08	33.934	1.74	3.05	7.76	2.36	33.3						
A 67 46 20.7 N 124 36.1 W DATE 23 JUN 69 0320 GCT WIRE 01 DRY 58.0 WET 57.5 CRUISE Y6906C													
WIND DIRECTION 24 VEL 10 KTS BAR 17 SWELL DIRECTION 27 H 02 T 06 CLUD 6 AMT 8 WEATHER 02													
0	15.49	30.734	4.07	.12	8.26	2.19	.1	0	15.49	30.74	22.62	525.0	0
3	15.53	30.736	4.13	.9	8.27	2.19	.1	10	15.04	30.92	22.85	502.4	.051
6	15.53	30.738	4.06	.7	8.26	2.19	.1	20	10.75	32.11	24.60	334.0	.093
10	15.04	30.917	4.27	.13	8.28	2.21	.1	30	8.77	32.48	25.21	277.7	.124
15	11.79	31.921	7.05	.22	8.27	2.25	.1	50	8.34	32.58	25.35	264.4	.178
20	10.75	32.107	4.93	.35	8.24	2.25	.1	75	8.16	33.35	25.98	208.7	.237
30	8.77	32.480	4.74	.65	8.21	2.26	1.6	100	7.77	33.75	26.35	170.3	.284
50	8.34	32.576	4.19	.79	8.15	2.26	3.1	150	7.05	33.93	26.60	147.5	.343
75	8.16	33.345	4.17	1.85	7.99	2.30	17.3	200	6.95	33.94	26.62	144.6	.437
100	7.76	33.744	3.36	1.90	7.91	2.33	21.1						
125	7.20	33.910	2.05	2.33	7.79	2.34	24.1						
150	7.04	33.924	2.15	2.33	7.78	2.34							
200	6.95	33.938	2.14	2.67	7.80	2.34	33.1						

OBSERVED										INTERPOLATED					DERIVED				
D	T	S	O ₂	PO ₄	pH	AM	NO ₃			Z	T	S	e ₁	S	ΔO				
(m)	(°C)	(‰)	(ml/l)	(μM)		(mg/l)	(μM)			(m)	(°C)	(‰)		(‰)	(dyam)				
A 74 14 19.4 M 124 24.7 W DATE 25 JUN 69 1325 ICT WIRE 04 DRY 54.3 WET 48.1 CRUISE YAGNAC																			
WIND DIRECTION 23 VEL 10 KTS BAR 12 SWELL DIRECTION 17 M 04 T 06 CLOUD 7 AMT 7 WEATHER 02																			
0	15.44	29.062	4.02	.27	8.27	2.15	.1			0	15.44	29.07	21.25	454.4	0				
3	15.46	29.144	4.00	.25	8.27	2.17	.2			10	15.40	29.02	22.04	578.4	.062				
6	15.49	29.177	4.01	.24	8.27	2.19	.1			20	10.44	27.00	24.56	334.4	.108				
11	15.50	30.011	4.14	.24	8.28	2.19	.1			30	8.72	27.34	25.14	284.4	.139				
14	15.48	31.741	4.47	.45	8.27	2.26	.1			50	8.14	27.40	25.43	254.4	.193				
20	19.46	31.447	4.16	.42	8.20	2.24	1.7			75	8.01	27.70	26.24	177.0	.247				
30	8.72	32.373	4.47	1.34	8.11	2.30	10.1			100	7.24	27.92	26.54	150.4	.288				
50	8.34	32.647	4.22	1.51	8.06	2.30	12.4												
74	8.01	33.446	2.54	2.57	7.43	2.34	27.9												
100	7.25	33.917	1.40	7.01	7.76	2.17	31.9												
C 81 14 34.4 M 124 04.1 W DATE 25 JUN 69 2220 ICT WIRE 00 DRY 50.0 WET 59.0 CRUISE YAGNAC																			
WIND DIRECTION 26 VEL 14 KTS BAR 17 SWELL DIRECTION 17 M 05 T 07 CLOUD 7 AMT 7 WEATHER 02																			
0	14.14	17.424	4.30	.71	8.24	1.72	2.0			0	14.36	17.43	12.66	1484.4	0				
3	12.23	31.014	4.51		8.14	2.26				10	9.40	32.39	25.04	293.7	.049				
6	10.44	32.254	4.10	.74	8.17	2.28	2.5			20	8.48	32.81	25.31	244.4	.116				
10	9.40	32.347	4.00	.84	8.14	2.28	5.2			30	8.20	33.39	26.00	202.4	.139				
15	8.91	32.510	4.71	1.05	8.13	2.30	8.4												
20	8.44	32.400	4.76	1.40	8.03	2.31	15.4												
30	8.20	33.142	1.16	1.89	7.41	2.31	24.0												
40	8.10	33.441	3.26	1.90	7.41		24.2												
C 83 14 01.0 M 124 14.1 W DATE 24 JUN 69 0017 ICT WIRE 03 DRY 58.9 WET 50.4 CRUISE YAGNAC																			
WIND DIRECTION 30 VEL 14 KTS BAR 13 SWELL DIRECTION 18 M 05 T 06 CLOUD 3 AMT 7 WEATHER 02																			
0	15.40	20.230	4.56	.45	8.27		1.1			0	15.40	20.23	14.50	1304.4	0				
3	15.59	27.094	4.13	.45	8.21	1.88	2.0			10	14.18	29.52	21.94	584.4	.095				
6	14.19	27.544	4.82	.49	8.20	2.11	3.0			20	9.46	32.30	24.44	309.0	.140				
10	14.18	29.517	4.23	.36	8.24	2.17	.6			30	8.34	32.51	24.10	269.4	.149				
15	12.14	31.824	4.88	.24	8.29	2.24	.1			50	8.23	33.12	25.79	229.4	.181				
20	9.44	32.299	7.04	.35	8.26	2.30	.1			75	7.94	33.71	26.30	174.4	.244				
30	8.34	32.503	4.26	.74	8.14	2.31	4.3												
50	8.23	33.116	4.52	1.23	8.03	2.33	14.1												
75	7.95	33.707	3.00	1.77	7.49	2.37	26.3												
A 85 14 55.7 M 124 28.4 W DATE 24 JUN 69 0243 ICT WIRE 04 DRY 54.0 WET 44.6 CRUISE YAGNAC																			
WIND DIRECTION 30 VEL 22 KTS BAR 14 SWELL DIRECTION 18 M 04 T 06 CLOUD 4 AMT 7 WEATHER 02																			
0	15.46	25.277	4.43	.25	8.25		.1			0	15.46	25.28	14.74	314.4	.1				
3	15.70	24.597	4.39	.27			.3			10	11.21	27.27	24.44	332.4	.041				
6	17.89	30.770	4.33	.25	8.32	2.01	.2			20	8.43	27.44	24.73	314.4	.044				
10	11.23	32.263	4.81	.38	8.27	2.30	.3			30	8.13	27.50	24.24	270.4	.121				
15	9.31	32.471	4.73	.42	8.23	2.31	2.4			50	8.09	27.83	24.44	242.4	.172				
20	8.63	32.479	4.74	.48	8.22	2.30	3.5			75	8.21	27.17	24.43	210.4	.231				
30	8.33	32.444	4.54	.70	8.19	2.30	5.2			100	8.06	27.54	24.16	144.4	.281				
50	8.09	32.830	4.33	1.37	8.11	2.31	13.5												
75	8.21	33.161	4.49	1.41	8.02	2.34	18.1												
100	4.06	33.554	3.44	1.87	7.44	2.34	23.6												
125	7.56	33.852	2.71	2.12	7.45	2.36	24.8												
A 93 14 46.2 M 124 02.1 W DATE 24 JUN 69 1314 ICT WIRE 04 DRY 42.4 WET 41.4 CRUISE YAGNAC																			
WIND DIRECTION 32 VEL 09 KTS BAR 16 SWELL DIRECTION 17 M 04 T 06 CLOUD 4 AMT 7 WEATHER 02																			
0	12.43	30.761	4.43	.71	8.24	2.23	.1			0	12.43	30.77	21.22	447.4	0				
3	12.54	31.167	4.53	.68	8.25	2.25	3.5			10	10.44	32.24	24.44	327.4	.140				
6	11.34	32.002	4.69	.73	8.24	2.28	3.5			20	8.44	32.64	24.14	244.4	.144				
10	10.87	32.244	4.56	.79	8.23	2.26	4.0			30	8.11	33.14	24.44	222.4	.144				
15	9.57	32.473	4.66	1.14	8.12	2.28	9.4												
20	8.44	32.635	4.02	1.44	8.04	2.30	15.2												
30	8.31	33.137	4.00	1.82	7.44	2.31	21.1												
40	8.17	33.423	1.57	2.01	7.41	2.33	23.7												
C 95 14 46.9 M 124 01.7 W DATE 24 JUN 69 1610 ICT WIRE 02 DRY 54.0 WET 42.4 CRUISE YAGNAC																			
WIND DIRECTION 30 VEL 04 KTS BAR 16 SWELL DIRECTION 18 M 04 T 06 CLOUD 6 AMT 7 WEATHER 02																			
0	17.30	28.964	4.44	.33	8.26	2.14	.1			0	13.30	28.97	21.71	412.1	0				
3	12.41	29.151	4.54	.35	8.25	2.21	.1			10	9.55	32.43	23.04	242.2	.145				
6	11.07	32.213	4.43	.42	8.21	2.26	.5			20	8.43	32.80	24.41	244.0	.172				
10	9.55	32.425	4.26	.34	8.18	2.28	3.4			30	8.21	33.34	24.97	204.1	.195				
15	8.57	32.563	4.87		8.12	2.28	9.4			50	8.05	33.73	24.29	174.2	.133				
20	8.43	32.799	4.59		8.00	2.28	15.9												
30	8.21	33.334	3.77	.34	7.45	2.31	21.6												
50	8.05	33.724	2.38	.33	7.42	2.33	26.8												
C 97 14 47.1 M 124 16.3 W DATE 24 JUN 69 1822 ICT WIRE 03 DRY 57.8 WET 55.0 CRUISE YAGNAC																			
WIND DIRECTION 23 VEL 06 KTS BAR 13 SWELL DIRECTION 18 M 04 T 06 CLOUD 4 AMT 7 WEATHER 02																			
0	15.03	20.300	4.35		8.26		1.7			0	15.03	20.30	14.73	1284.1	0				
3	14.41	27.124	5.77		8.18	2.07	2.9			10	11.74	32.28	24.55	340.3	.081				
7	13.14	31.002	4.73		8.26	2.26	.6			20	9.70	32.44	25.04	293.4	.113				
10	11.74	32.274	4.30		8.34	2.28	.6			30	8.63	32.51	25.25	273.9	.141				
15	10.54	32.349	4.88		8.26	2.30	1.1			50	8.11	32.80	25.56	244.4	.193				
20	9.70	32.452	4.82		8.26	2.30	1.7			75	8.12	33.43	26.05	198.7	.249				
30	8.62	32.502	4.85		8.22	2.30	3.8			100	7.71	33.79	26.39	166.8	.294				
50	8.11	32.799	9.51		8.11	2.31	8.7												
75	8.12	33.425	4.02		7.44	2.34	9.7												
100	7.71	33.722	2.44		7.44	2.37													

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn.m)
C 100 45 40.8 N 124 12.6 W DATE 24 JUN 69 2102 GCT WIRE 05 DRY 56.7 WET 54.1 CRUISE Y690AC													
WIND DIRECTION 24 VEL 17 KTS BAR 15 SWELL DIRECTION 28 H 04 T 06 CLOUD 6 AMT 8 WEATHER 02													
0	14.95	22.310	6.52	.52	8.28	1.86	1.1	0	14.95	22.31	16.28	1134.6	0
3	13.72	24.284	6.30	.50	8.26	2.11	1.2	10	11.85	32.18	24.45	344.6	.174
6	13.81	31.450	6.47	.34	8.27	2.25	.1	20	9.31	32.46	25.11	247.2	.106
10	11.85	32.174	6.73	.44	8.28	2.24	.1	30	8.24	32.49	25.10	244.4	.174
15	10.51	32.764		.53	8.28	2.30	.1	50	8.00	32.73	25.52	244.3	.146
20	9.31	32.454	6.73	.77	8.24	2.30	2.4	75	8.12	33.42	26.04	190.3	.242
30	8.24	32.484	6.72	.90	8.23	2.30	4.1	100	7.76	33.84	26.43	161.3	.287
50	8.00	32.730	5.87	1.20	8.15	2.31	10.7						
75	8.12	33.411	3.67	1.87	7.97	2.34	25.4						
100	7.75	33.837	2.33	2.34	7.42	2.37	28.7						
125	7.50	33.872	2.29	2.52	7.82	2.37	29.2						
C 102 45 34.2 N 123 59.5 W DATE 24 JUN 69 2314 GCT WIRE 00 DRY 55.2 WET 53.4 CRUISE Y690AC													
WIND DIRECTION 23 VEL 04 KTS BAR 14 SWELL DIRECTION 28 H 05 T 06 CLOUD 6 AMT 8 WEATHER 02													
0	13.43	28.367	6.33	.80	8.23	2.11	2.0	0	13.43	28.37	21.22	654.7	0
3	12.87	29.301	6.36	.69	8.24	2.15	1.8	10	9.99	32.31	24.88	308.7	.148
6	12.29	31.360	6.51	.65	8.26	2.25	.3	20	8.95	32.72	25.36	263.2	.177
10	9.99	32.309	5.37	1.23	8.12	2.30	9.8						
15	9.30	32.557	5.05	1.40	8.08	2.30	12.9						
20	8.96	32.711	4.84	1.46	8.05	2.30	14.6						
C 105 45 20.3 N 124 01.8 W DATE 25 JUN 69 0153 GCT WIRE 05 DRY 53.9 WET 52.5 CRUISE Y690AC													
WIND DIRECTION 28 VEL 10 KTS BAR 15 SWELL DIRECTION 28 H 06 T 06 CLOUD 6 AMT 8 WEATHER 02													
0	13.47	27.647	6.65	.66	8.23	2.07		0	13.47	27.65	20.66	712.5	0
3	13.15	27.999	6.64	.77	8.24	2.09		10	9.86	32.73	25.23	274.7	.144
6	11.39	31.653	6.28	.92	8.16	2.23		20	8.39	33.27	25.88	213.7	.174
10	9.86	32.722	5.12	1.32	8.05	2.28		30	8.16	33.59	26.17	184.7	.194
15	8.91	32.954	4.46	1.61	8.00	2.30							
20	8.39	33.265	3.69	1.89	7.94	2.30							
30	8.16	33.586	2.92	2.17	7.87	2.33							
A 107 45 24.0 N 124 14.7 W DATE 25 JUN 69 0410 GCT WIRE 05 DRY 54.7 WET 53.1 CRUISE Y690AC													
WIND DIRECTION 24 VEL 04 KTS BAR 12 SWELL DIRECTION 28 H 06 T 06 CLOUD 6 AMT 8 WEATHER													
0	14.94	25.592	6.53	.44	8.30	1.98	.1	0	14.94	25.60	18.79	891.9	0
3	14.70		6.57		8.29	2.01	.1	10	11.49	32.06	24.43	351.9	.162
6	13.12	31.435	6.64	.54	8.27	2.23	.1	20	9.06	32.50	25.18	281.7	.194
10	11.49	32.058	6.80	.63	8.28	2.25	.1	30	8.39	32.54	25.31	244.2	.121
15	10.11	32.383	7.05	.69	8.26	2.26	.1	50	8.17	32.88	25.61	239.7	.172
20	9.06		5.90	1.06	8.15	2.26	.1	75	8.17	33.57	26.15	184.8	.226
30	8.39	32.533	5.95	1.09	8.14	2.26	6.2	100	7.68	33.80	26.41	165.1	.170
50	8.17	32.879	5.08	1.27	8.06	2.28	7.7						
75	8.17	33.563	2.87	2.26	7.88	2.31	23.0						
100	7.67	33.798	3.41	2.29	7.92	2.33	26.1						
A 117 45 25.0 N 124 38.1 W DATE 25 JUN 69 1517 GCT WIRE DRY 55.9 WET 52.5 CRUISE Y690AC													
WIND DIRECTION 32 VEL 20 KTS BAR 10 SWELL DIRECTION 27 H 06 T 10 CLOUD 8 AMT 6 WEATHER 01													
0	15.46	27.025	6.07	.34	8.28	2.05	.3	0	15.46	27.03	19.78	794.6	0
3	15.49	27.048	6.10	.32	8.26	2.07	.1	10	13.36	31.87	23.93	399.7	.160
6	15.43	27.321	6.12	.32	8.26	2.07	.4	20	11.49	32.56	24.74	322.4	.196
10	13.36	31.864	6.53	.35	8.25	2.26	.4	30	9.66	32.48	25.07	291.4	.127
15	12.57	32.237		.37	8.25	2.28	.2	50	8.42	32.48	25.26	273.0	.183
20	11.89	32.550	6.75	.38	8.26	2.30	.2	75	8.08	32.43	25.27	272.4	.251
30	9.66	32.471	6.75	.42	8.26	2.28	.2	100	8.07	33.29	25.95	208.3	.111
50	8.42	32.479	6.64	.42	8.20	2.28	4.2	150	7.58	33.77	26.40	164.8	.405
75	8.08	32.426	5.59	.70	8.12	2.31	8.2	200	6.95	33.91	26.59	148.8	.484
100	8.07	33.287	4.43	.89	8.01	2.33	14.9						
125	7.86	33.680	3.58	1.00	7.94	2.47	17.9						
150	7.58	33.767	3.56	1.02	7.93	2.36	23.9						
200	6.95	33.908	3.05	1.13	7.86	2.37	24.8						
C 119 45 12.3 N 124 32.4 W DATE 25 JUN 69 1732 GCT WIRE 05 DRY 57.4 WET 54.5 CRUISE Y690AC													
WIND DIRECTION 33 VEL 15 KTS BAR 12 SWELL DIRECTION 28 H 06 T 06 CLOUD 8 AMT 6 WEATHER 02													
0	15.24	27.587	6.06	.30	8.27	2.05		0	15.24	27.59	20.26	750.9	0
3	15.26	27.719	6.06		8.27	2.05		10	13.22	31.01	23.29	460.7	.141
6	15.11	28.166	6.12	.28	8.26	2.07		20	10.38	32.41	24.90	307.7	.199
10	13.22	31.003	6.51	.34	8.26	2.23		30	9.34	32.54	25.16	282.7	.124
15	12.34	32.206	6.61	.38	8.25	2.25		50	8.45	32.51	25.28	271.1	.184
20	10.37	32.406	6.97	.40	8.25	2.25		75	8.12	32.81	25.57	244.7	.248
30	9.34	32.516	6.88	.44	8.23	2.25		100	8.18	33.43	26.04	190.8	.104
50	8.45	32.510	6.81	.53	8.20	2.25		150	7.56	33.88	26.49	158.3	.143
75	8.12	32.807	5.65	.70	8.12	2.26		200	7.21	33.98	26.61	147.2	.470
100	8.18	33.427	4.02	.96	7.98	2.30							
125	7.40	33.706	2.81	1.03	7.94	2.31							
150	7.45	33.877	2.95	1.12	7.90	2.33							
200	7.21	33.977	2.49	1.19	7.84	2.33							

OBSERVED								INTERPOLATED				DERIVED		
D	T	S	O ₂	PC	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$	
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/m)	
C 122 45 07.4 N 124 12.2 W DATE 27 JUN 69 2019 GCT WIRE 00 DRY 56.3 WET 54.3 CRUISE Y6906C														
WIND DIRECTION 29 VEL 12 KTS BAR 13 SWELL DIRECTION 28 H 05 T 07 CLOUD 8 AMT 4 WEATHER 02														
0	15.38	24.419	6.43	.48	8.31	1.94	.1	0	15.38	24.42	17.81	947.0	0	
3	15.28	24.523	6.43	.47	8.30	1.94	.1	10	12.05	31.89	24.19	374.5	.044	
6	12.60	30.763	6.54	.53	8.25	2.21	.1	20	10.05	32.44	24.49	249.1	.102	
10	12.05	31.885	6.73	.60	8.24	2.25	.1	30	8.41	32.51	25.29	276.7	.170	
15	10.77	32.293	6.49	.71	8.21	2.26	.7	50	7.83	32.63	25.47	251.9	.183	
20	10.05	32.452	6.96	.82	8.24	2.26	.4	75	7.92	32.54	26.17	187.7	.234	
30	8.41	32.504	6.58	.99	8.18	2.26	5.0	100	7.77	33.78	26.37	164.2	.282	
50	7.83	32.625	6.14	1.28	8.14	2.26	9.5							
75	7.91	33.534	4.00	2.06	7.97	2.31	23.2							
100	7.76	33.772	3.39	2.55	7.91	2.37	26.2							
125	7.50	33.885	2.66	2.61	7.84	2.37	29.7							
C 124 45 04.7 N 124 02.0 W DATE 25 JUN 69 2157 GCT WIRE 00 DRY 55.3 WET 54.0 CRUISE Y6906C														
WIND DIRECTION 30 VEL 10 KTS BAR 14 SWELL DIRECTION 28 H 05 T 07 CLOUD 8 AMT 4 WEATHER 1A														
0	13.77	27.978						0	13.77	27.98	20.85	693.7	0	
3	13.06	28.105						10	9.76	32.64	25.17	281.1	.049	
6	10.89	32.158												
10	9.76	32.632												
15	8.77	32.924												
C 127 44 49.6 N 124 06.4 W DATE 26 JUN 69 0131 GCT WIRE 00 DRY 59.6 WET 54.7 CRUISE Y6906C														
WIND DIRECTION 29 VEL 12 KTS BAR 15 SWELL DIRECTION 29 H 06 T 10 CLOUD 8 AMT 4 WEATHER 01														
0	13.36	29.567	6.68	.81	8.19	2.19	3.6	0	13.36	29.57	22.16	568.9	0	
3	11.98	30.940	6.53	1.28	8.15	2.33	8.7	10	10.17	32.64	25.11	287.5	.043	
6	11.16	32.085	6.30		8.16	2.30		20	8.65	33.04	25.66	234.6	.149	
10	10.17	32.633	6.34	1.28	8.09	2.31	8.4	30	8.25	33.50	26.08	195.0	.090	
15	9.37	32.865	5.02	1.56	8.04	2.33	14.2							
20	8.65	33.035	4.44	1.84	8.00	2.33	17.9							
30	8.25	33.491	3.18	2.11	7.91	2.34	22.9							
C 128 44 49.3 N 124 08.2 W DATE 26 JUN 69 0209 GCT WIRE 00 DRY 57.9 WET 53.4 CRUISE Y6906C														
WIND DIRECTION 32 VEL 10 KTS BAR 15 SWELL DIRECTION 29 H 06 T 10 CLOUD 8 AMT 3 WEATHER 01														
0	14.07	28.522	6.72	.71	8.26	2.14	.6	0	14.07	28.53	21.21	659.2	0	
3	12.89	30.253	6.44	.79	8.20	2.21	1.6	10	10.82	32.18	24.64	332.1	.050	
6	11.59	31.549	6.23	.96	8.18	2.28	3.6	20	8.96	32.81	25.44	254.7	.079	
10	10.82	32.173	6.14	1.10	8.16	2.30	5.6	30	8.38	33.18	25.82	220.2	.103	
15	9.76	32.589	6.24	1.60	8.08	2.31	12.1	50	8.06	33.71	26.28	176.7	.142	
20	8.96	32.804	4.82	1.72	8.03	2.31	15.2							
30	8.38	33.174	4.62	2.07	7.96	2.33	20.3							
50	8.05	33.705	2.56	2.52	7.83	2.37	28.2							
A 129 44 49.8 N 124 10.6 W DATE 26 JUN 69 0335 GCT WIRE 00 DRY 57.5 WET 54.1 CRUISE Y6906C														
WIND DIRECTION 32 VEL 08 KTS BAR 15 SWELL DIRECTION 28 H 05 T 06 CLOUD 8 AMT 7 WEATHER 02														
0	12.92	31.265	6.63	.61	8.24	2.28	.1	0	12.92	31.27	23.55	435.7	0	
3	12.05	31.128	6.65	.62	8.25	2.28	.1	10	10.92	32.29	24.71	325.7	.038	
6	11.49	32.089	6.53	.71	8.22	2.30	.1	20	8.72	32.49	25.23	274.4	.068	
10	10.92	32.282	6.69	.73	8.22		.3	30	8.42	33.02	25.68	233.1	.094	
15	9.57	32.423	6.32	1.35	8.10	2.30	8.7	50	7.97	33.61	26.21	183.0	.135	
20	8.72	32.486	5.65											
30	8.42	33.011	4.36	1.92	7.99	2.33	18.4							
50	7.97	33.603	3.77	2.27	7.93	2.34	23.8							
A 137 45 04.0 N 125 03.0 W DATE 26 JUN 69 1432 GCT WIRE 05 DRY 55.9 WET 53.3 CRUISE Y6906C														
WIND DIRECTION 26 VEL 12 KTS BAR 14 SWELL DIRECTION 28 H 06 T 08 CLOUD 8 AMT 7 WEATHER 02														
0	15.62	27.563	6.08	.37	8.25	2.09	.2	0	15.63	27.57	20.16	760.3	0	
3	15.02	29.290	6.36	.37	8.24	2.19	.2	10	11.91	32.35	24.54	337.7	.055	
6	13.11	31.974	6.56	.47	8.23	2.26	.8	20	10.66	32.42	24.85	311.7	.087	
10	11.91	32.350	6.93	.51	8.25	2.28	.8	30	9.57	32.51	25.11	287.6	.117	
15	10.89	32.401	7.12	.51	8.26	2.28	.2	50	8.71	32.50	25.23	274.2	.174	
20	10.66	32.416	7.10	.52	8.25	2.28	.1	75	8.13	32.67	25.45	255.7	.240	
30	9.57	32.508	7.05	.59	8.24	2.28	.7	100	8.18	33.28	25.92	211.2	.299	
50	8.71	32.492	6.81	.74	8.21	2.28	1.0	150	7.99	33.86	26.41	164.2	.303	
75	8.13	32.560	6.10	.97	8.16	2.28	8.3	200	7.31	33.94	26.57	151.0	.472	
100	8.18	33.274	4.51	1.53	8.01	2.31	17.7							
125	8.22	33.484	3.51	1.78	7.94	2.34	23.5							
151	7.99	33.854	3.12	1.99	7.90	2.34	26.2							
200	7.71	33.944	2.44	2.14	7.86	2.36	29.6							

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C 140 44 50.4 N 124 00.2 W DATE 26 JUN 69 1725 ACT WIRE 01 DRY 58.0 WET 54.4 CRUISE Y6906C
WIND DIRECTION 28 VEL 10 KTS BAR 15 SWELL DIRECTION 28 H 06 T 08 CLUD 8 AMT 7 WEATHER 02

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
0	16.09	25.315	6.04	.27	8.27	1.96	.1	0	16.09	25.32	18.34	935.2	C
3	16.12	25.344	6.04	.27	8.26	1.98	.1	10	14.68	31.34	23.25	464.9	.075
6	15.55	30.244	6.15	.32	8.24	2.17	.1	20	10.24	32.24	24.60	314.5	.100
10	14.68	31.131	6.23	.34	8.25	2.21	.1	30	9.03	32.47	25.16	242.4	.130
15	11.91	32.048		.43	8.27	2.25	.1	50	8.32	32.50	25.30	270.0	.140
20	10.24	32.239	7.18	.46	8.29	2.25	.1	75	8.41	33.00	24.67	274.8	.257
30	9.03	32.465	6.89	.68	8.24	2.25	2.2	100	8.73	33.48	24.00	204.3	.312
50	8.32	32.500	6.23	.83	8.19	2.25	6.4	150	8.17	33.88	24.40	167.0	.400
75	8.41	32.995	5.24	1.26	8.09	2.26	14.6	200	7.47	33.96	24.56	152.1	.440
100	8.73	33.475	5.65	1.61	7.99	2.30	21.0						
125	8.56	33.760	3.19	1.83	7.92	2.31	25.6						
150	8.17	33.878	2.85	1.94	7.90	2.33	27.6						
200	7.47	33.960	2.66	2.05	7.86	2.34	30.0						

C 143 44 48.3 N 124 48.3 W DATE 26 JUN 69 1955 ACT WIRE 00 DRY 57.8 WET 54.1 CRUISE Y6906C
WIND DIRECTION 28 VEL 10 KTS BAR 16 SWELL DIRECTION 28 H 06 T 08 CLUD 8 AMT 7 WEATHER 02

0	16.07	26.508	6.04	.40	8.25	2.05	.1	0	16.07	26.51	19.26	847.1	C
3	16.09	27.243	6.07	.53	8.25	2.09	.1	10	11.63	31.96	24.33	361.7	.065
6	15.62	29.895	6.23		8.24	2.19	.1	20	9.78	32.47	25.04	293.5	.100
10	11.63	31.959	7.05	.68	8.26	2.28	.1	30	9.22	32.49	25.15	297.8	.120
15	10.18	32.372	7.29	.81	8.28	2.30	.1	50	8.42	32.48	25.26	277.4	.175
20	9.78	32.470	7.31		8.28	2.30	.1	75	8.18	32.83	25.57	244.5	.240
30	9.22	32.487	7.22	.86	8.27	2.30	.3	100	8.26	33.47	24.06	198.1	.300
50	8.42	32.473	6.58	1.00	8.20	2.28	5.1	150	7.64	33.90	24.49	157.8	.387
75	8.18	32.820	5.67	1.53	8.12	2.31	12.4	200	7.15	33.97	24.61	146.8	.443
100	8.26	33.465	3.85	2.16	7.95	2.34	22.4						
125	7.95	33.669	3.49	2.34	7.93	2.36	24.6						
150	7.63	33.898	2.87	2.54	7.87	2.37	28.4						
200	7.15	33.971	2.38	3.18	7.81	2.37	37.4						

C 146 44 45.6 N 124 18.2 W DATE 26 JUN 69 2230 ACT WIRE 00 DRY 56.9 WET 54.5 CRUISE Y6906C
WIND DIRECTION 28 VEL 10 KTS BAR 16 SWELL DIRECTION 28 H 06 T 07 CLUD 8 AMT 7 WEATHER 02

0	14.80	27.158						0	14.80	27.16	20.02	773.8	C
3	13.12	29.802						10	10.76	32.36	24.79	318.0	.055
6	11.69	31.908						20	8.77	32.50	25.23	276.3	.084
10	10.76	32.351						30	8.42	32.53	25.30	269.2	.112
15	9.52	32.434						50	8.25	32.88	25.60	241.0	.143
20	8.77	32.496						75	7.93	33.64	26.24	180.4	.215
30	8.42	32.524											
50	8.25	32.877											
75	7.92	33.634											

C 147 44 45.0 N 124 11.3 W DATE 27 JUN 69 0005 ACT WIRE 00 DRY 54.9 WET 53.9 CRUISE Y6906C
WIND DIRECTION 28 VEL 10 KTS BAR 16 SWELL DIRECTION 28 H 06 T 08 CLUD 8 AMT 7 WEATHER 02

0	13.61	28.062						0	13.61	28.07	20.95	694.5	C
3	12.31	30.547						10	10.49	32.37	24.84	312.8	.050
6	11.08	32.074						20	8.84	32.77	25.42	257.5	.075
10	10.49	32.361						30	8.35	33.17	25.82	220.3	.102
15	9.39	32.576						50	8.16	33.64	26.21	183.1	.143
20	8.84	32.763											
30	8.35	33.170											
50	8.16	33.638											

NH 3 44 39.0 N 124 07.7 W DATE 27 JUN 69 1451 ACT WIRE 00 DRY 55.0 WET 53.4 CRUISE Y6906C
WIND DIRECTION 18 VEL 00 KTS BAR 17 SWELL DIRECTION 28 H 05 T 08 CLUD 8 AMT 7 WEATHER 02

0	13.87	30.543	6.54	.63	8.25	2.23	.8	0	13.88	30.55	22.81	508.7	C
3	13.72	30.708	6.44	.63	8.24	2.23	1.0	10	12.72	32.14	24.26	368.2	.044
6	12.95	31.657	6.67	.70	8.22	2.28	2.1	20	8.83	33.16	25.73	228.4	.074
10	12.72	32.135	6.60	.73	8.22	2.31							
15	10.10	32.823	5.38	1.51	8.05	2.33	14.3						
20	8.83	33.151	7.93	1.74	7.95	2.33	21.0						

NH 4 44 38.9 N 124 10.5 W DATE 27 JUN 69 1600 ACT WIRE 01 DRY 55.9 WET 53.4 CRUISE Y6906C
WIND DIRECTION 18 VEL 00 KTS BAR 17 SWELL DIRECTION 28 H 04 T 08 CLUD 6 AMT 7 WEATHER 02

0	13.85	28.202		.41	8.30	2.11	.7	0	13.85	28.21	21.01	678.4	C
3	13.19	28.942	6.97	.53	8.29	2.17	.5	10	9.84	32.62	25.14	281.4	.044
6	11.27	31.175	7.30	.59	8.29	2.23	.3	20	8.46	33.04	25.49	232.1	.074
10	9.86	32.615	7.54	1.16	8.13	2.31	9.5	30	8.42	33.42	26.00	202.9	.094
15	9.06	32.916	4.92	1.50	8.04	2.33	16.4						
20	8.46	33.031	4.46	1.60	8.01	2.33	18.1						
30	8.42	33.418	7.44	1.91	7.93	2.36	23.4						

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
NM 10 44 39.2 N 124 17.8 W DATE 27 JUN 69 1710 GCT WIRE 02 DRY 57.2 WET 54.9 CRUISE Y690A- WIND DIRECTION 22 VEL 08 KTS BAR 18 SWELL DIRECTION 29 H 05 T 08 CLOUD 6 AMT 6 WEATHER 02													
0	13.28	29.234						0	13.28	29.24	21.02	592.0	0
3	11.73							10	10.46	32.26	24.75	320.4	.046
6	11.23	32.217						20	8.56	32.51	25.75	272.4	.175
10	10.46	32.252						30	8.32	32.75	25.42	251.4	.101
15	9.14	.457						50	8.23	33.41	26.02	201.4	.147
20	8.56	32.506											
30	8.32	32.746											
50	8.23	33.403											
NM 15 44 39.2 N 124 24.9 W DATE 27 JUN 69 1916 GCT WIRE 00 DRY 56.6 WET 54.9 CRUISE Y690A- WIND DIRECTION 20 VEL 12 KTS BAR 18 SWELL DIRECTION 29 H 05 T 08 CLOUD 8 AMT 7 WEATHER 02													
0	15.31	28.170			8.70	2.01		0	15.31	28.17	19.16	854.6	C
3	15.00	27.359	4.44	.18	8.29	2.05		10	11.63	32.01	24.35	358.2	.061
6	13.58	31.022	4.61	.21	8.26	2.21	.1	20	9.58	32.42	25.75	294.2	.093
10	11.63	32.006	4.88	.30	8.26	2.25	.1	30	8.63	32.51	25.75	273.0	.122
15	10.73	32.344	4.87	.40	8.25	2.26	.3	50	8.26	32.69	25.45	255.1	.175
20	9.58	32.419	4.32	.67	8.20	2.26	4.4						
25	8.85	32.485	4.45	.75	8.20	2.26	5.8						
30	8.62	32.502	4.63	.72	8.20	2.28	5.7						
35	8.52	32.503	4.56	.80	8.20	2.28	6.8						
40		32.518											
45	8.39	32.550	4.31	.87	8.18	2.26	7.1						
50	8.26	32.688	5.77	1.05	8.14	2.28	10.8						
55		32.857	5.08	1.29	8.09	2.28	14.6						
60		32.993	4.66	1.43	8.03	2.28	17.4						
65		33.244	4.15	1.67	7.99	2.31	21.1						
70	8.16	33.443	4.07	1.69	7.99	2.31	22.5						
NM 25 44 39.0 N 124 38.8 W DATE 28 JUN 69 0027 GCT WIRE DRY 57.3 WET 54.6 CRUISE Y690A- WIND DIRECTION 32 VEL 12 KTS BAR 20 SWELL DIRECTION 26 H 04 T 10 CLOUD 8 AMT 6 WEATHER 02													
0	16.17	27.305	6.06	.32	8.26	2.09	.1	0	16.17	27.31	19.45	790.4	0
3		29.151	4.31	.44	8.26	2.17	.1	10	12.13	32.07	24.32	362.2	.058
6	13.49	31.567	4.64	.45	8.26	2.39	.1	20	9.60	32.47	25.37	290.1	.090
10	12.12	32.065	4.88	.46	8.27	2.30	.1	30	8.82	32.48	25.21	278.4	.119
15		32.386	7.28	.56	8.24	2.30	.1	50	8.36	32.49	25.39	271.1	.174
20	9.60	32.470	7.35	.55	8.28	2.30	.1	75	8.19	32.96	25.67	234.1	.237
30	8.82	32.480	6.88	.71	8.24	2.30	2.5	100	8.06	33.51	26.12	192.1	.290
40	8.37	32.468	6.64	.83	8.21	2.30	4.7	150	7.64	33.93	26.52	155.1	.377
45	8.35	32.475	6.58	.86	8.20	2.31	4.8	200	7.15	33.99	26.63	146.4	.453
50	8.36	32.483	6.54	.90	8.21	2.30	5.1						
60	8.24	32.589	4.21		8.18	2.31	7.4						
65		32.673	5.96			2.31	9.3						
70		32.806	5.64	.99	8.07	2.31	12.0						
75	8.19	32.952	5.25	1.11	8.09	2.33	15.1						
80	8.20	33.037	4.85	1.27	8.06	2.33	17.1						
87	8.21	33.254	4.51	1.37	8.02	2.34	21.1						
100	8.06	33.508	3.69	1.60	7.95	2.34	25.9						
125	7.75	33.866	2.26	2.12	7.80	2.39							
150	7.64	33.929			7.83	2.39							
200		33.988											
NM 35 44 39.2 N 124 52.8 W DATE 28 JUN 69 0312 GCT WIRE DRY 59.0 WET 55.5 CRUISE Y690A- WIND DIRECTION 30 VEL 14 KTS BAR 20 SWELL DIRECTION 28 H 06 T 08 CLOUD 8 AMT 5 WEATHER 02													
0	15.93	27.503	6.06	.45	8.25	2.09	.1	0	15.93	27.51	20.05	771.1	0
3		28.238	6.16	.39		2.11	.1	10	12.38	32.05	24.26	368.1	.057
6	13.58	31.435	4.57	.53	8.24	2.28	.1	20	9.76	32.46	25.04	294.2	.090
10	12.37	32.042	4.80	.54	8.25	2.30	.1	30	8.88	32.49	25.20	279.1	.119
15		32.370	7.21	.60		2.30	.1	50	8.30	32.54	25.32	267.2	.173
20	9.76	32.457	7.42	.66	8.26	2.31	.1	75	8.40	33.03	25.75	227.1	.235
30	8.87	32.481	6.88	.99	8.23	2.31	2.2	100	8.20	33.42	26.03	201.1	.289
35	8.69	32.472	6.76	.90	8.21	2.30	2.8	150	7.94	33.92	26.46	160.1	.379
40	8.52	32.469	6.65	.95	8.21	2.30	3.6	200	7.37	33.97	26.59	149.4	.457
45		32.489	6.43	1.08		2.30	5.4						
50	8.30	32.533	4.40	1.15	8.18	2.30	6.0						
55	8.29	32.610	4.14	1.35	8.16	2.31	8.4						
60	8.27	32.645	4.02	1.33	8.16	2.31	9.1						
65	8.36	32.774	5.65	1.58	8.13	2.31	11.4						
70	8.40	32.957	5.24	1.94	8.09	2.33	13.9						
75	8.40	33.040	4.88	1.88	8.05	2.33	15.3						
100		33.412	4.18	2.26	8.00	2.34	20.8						
125	7.46	33.755	2.40	2.64	7.87	2.37	23.1						
150	7.93	33.913	2.79	2.75	7.88	2.37	24.4						
200	7.37	33.974	2.62	3.07	7.84	2.39	29.4						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PC ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NH 45 44 39.0 N 125 07.0 W DATE 29 JUN 69 0803 GCT WIRE 05 DRY 57.5 WET 54.8 CRUISE Y690AC													
WIND DIRECTION 27 VEL 14 KTS BAR 22 SWELL DIRECTION 29 H 04 T 08 CLUD 8 AMT 7 WEATHER 02													
0	16.21	25.440	5.95	.33	8.25	1.94	.1	0	16.21	25.45	18.42	927.8	0
10	15.18	30.874	6.10	.27	8.24	2.17	.1	10	15.18	30.88	22.79	508.6	.072
20	11.89	32.158	6.96	.37	8.26	2.23	.1	20	11.89	32.16	24.43	351.7	.115
30	9.04	32.472	7.17	.66	8.25	2.25	1.2	30	9.04	32.48	25.16	282.3	.147
40	8.76	32.465	6.88	.68	8.22	2.23	2.8	50	8.32	32.47	25.27	272.9	.202
45		32.454	6.72	.74	8.21	2.23	3.6	75	8.15	32.83	25.57	247.4	.267
50	8.32	32.461	6.63		8.20	2.25	4.8	100	8.31	33.30	25.92	211.3	.323
60	8.21	32.527	6.61		8.19	2.25	7.1	150	7.94	33.81	26.37	164.7	.419
65	8.20	32.600	6.15		8.18	2.25	8.5	200	7.11	33.96	26.61	147.2	.498
75	8.15	32.824	5.64	1.09	8.11	2.25	12.4	250	6.54	34.02	26.74	135.7	.548
85		33.018	5.04		8.08	2.25	15.2	300	6.11	34.04	26.81	124.7	.575
100	8.31	33.297	4.43	1.40	8.02	2.28	19.6	400	5.39	34.10	27.44	117.5	.724
124	8.17	33.628	3.54	1.74	7.95	2.30	24.5	500	5.06	34.16	27.03	109.8	.872
149	7.96	33.802	1.00	1.92	7.90	2.34	28.5	600	4.52	34.26	27.17	97.1	.975
199	7.12	33.957	2.18	2.24	7.81	2.33	32.4						
299	6.12	34.043	1.57	2.53	7.75	2.33	36.5						
398	5.40	34.100	1.03	2.76	7.68	2.36	38.9						
498	5.07	34.156	.75	2.90	7.62	2.36	41.1						
597	4.54	34.260	.39	3.14	7.65	2.39	42.4						
NH 45 44 39.0 N 125 07.0 W DATE 28 JUN 69 1412 GCT WIRE 00 DRY 57.5 WET 54.8 CRUISE Y690AC													
WIND DIRECTION 27 VEL 14 KTS BAR 22 SWELL DIRECTION 29 H 04 T 08 CLUD 8 AMT 7 WEATHER 02													
0	16.18	26.034						0	16.18	26.04	18.87	884.2	0
3	16.18	27.034	5.98	.36	8.24	1.96	.1	10	15.21	30.82	22.74	513.1	.070
6	16.04	28.739	5.98	.35	8.23	2.09	.1						
10	15.21	30.820	6.07	.35	8.22	2.17	.1						
15	14.01	31.586	6.29	.37	8.24	2.21	.1						
NH 65 44 39.2 N 125 35.2 W DATE 29 JUN 69 0638 GCT WIRE 05 DRY 59.0 WET 53.0 CRUISE Y690AC													
WIND DIRECTION 28 VEL 18 KTS BAR 23 SWELL DIRECTION 29 H 04 T 07 CLUD 8 AMT 8 WEATHER 02													
0	15.96	28.153	5.98	.41	8.24	2.09	.1	0	15.96	28.16	20.54	724.0	0
10	14.43	31.533	6.39	.42	8.25	2.25	.1	10	14.43	31.54	23.45	445.1	.058
20	11.33	32.414	6.98	.48	8.24	2.28	.1	20	11.33	32.42	24.74	323.1	.097
30	10.44	32.485	7.12	.55	8.26	2.28	.1	30	10.44	32.49	24.95	307.1	.124
40	9.90	32.515	7.14	.56	8.25	2.30	.1	50	9.41	32.57	25.18	281.1	.187
50	9.41	32.567	6.72	.71	8.21	2.28	3.5	75	8.56	32.71	25.42	259.9	.254
55		32.555	6.47		8.19	2.26	4.8	100	8.63	33.21	25.80	222.5	.314
60	8.94	32.575	6.46	.90	8.20	2.28	4.2	150	8.00	33.58	26.18	187.1	.417
65		32.574	6.33	.92	8.18	2.28	6.2	200	7.68	33.94	26.51	154.7	.503
75	8.56	32.700						250	7.01	33.95	26.62	147.7	.579
87		32.753	5.84	1.08	8.13	2.30	10.8	300	6.30	33.97	26.72	137.5	.650
100	8.32	33.207	4.72	1.44	8.03	2.33	17.2	400	5.54	34.06	26.89	122.6	.780
150	8.00	33.514	3.76	1.93	7.92	2.34	26.1	500	5.02	34.13	27.01	111.7	.897
199	7.69	33.934	2.79	2.09	7.86	2.36	29.2	600	4.64	34.20	27.11	102.4	1.004
299	6.31	33.965	2.30	2.40	7.80	2.37	34.1	700	4.31	34.27	27.20	94.9	1.103
399	5.55	34.057	1.76	2.89	7.69	2.39	38.5	800	4.02	34.33	27.28	87.4	1.194
598	4.65	34.196	.52	3.17	7.64	2.41	42.2	1000	3.46	34.42	27.41	76.0	1.357
798	4.23	34.332	.36		7.64	2.44	43.3	1200	3.08	34.48	27.49	68.5	1.502
997	3.47	34.422	.52	3.24	7.66	2.47	43.5						
1197	3.09	34.479	.64	3.24	7.69	2.48	43.3						
NH 65 44 39.3 N 125 43.0 W DATE 30 JUN 69 1323 GCT WIRE 00 DRY 54.8 WET 53.6 CRUISE Y690AC													
WIND DIRECTION 32 VEL 10 KTS BAR 24 SWELL DIRECTION 29 H 04 T 06 CLUD 8 AMT 7 WEATHER 02													
0	15.55	28.970						0	15.55	28.98	21.25	655.6	0
1	15.55	28.970	6.00	.23	8.23	2.15	.1	10	13.84	32.25	24.17	377.2	.042
6	14.46	31.860	6.22		8.24	2.26	.1	20	12.00	32.52	24.69	327.1	.087
10	13.64	32.247	6.23		8.25	2.28		30	10.92	32.56	24.91	306.2	.119
15	12.39	32.500	6.72		8.26	2.30	.1	50	9.39	32.57	25.18	281.7	.177
25	11.75	32.543	6.68	.40	8.26	2.30	.1	75	8.88	32.78	25.41	259.0	.245
30	10.42	32.651	6.94	.41	8.26		.1	100	8.88	33.25	25.80	223.0	.305
35		32.661	7.05		8.25	2.28	.1	150	8.33	33.76	26.28	178.4	.405
40	10.13	32.555	7.08	.70	8.26	2.30	.2	200	7.54	33.94	26.53	154.6	.488
45		32.562	7.01	.78	8.25	2.28	1.7						
50	9.39	32.564	6.80		8.23	2.28	2.7						
55		32.534	6.07	.82	8.22	2.26	4.0						
60	8.78	32.510	6.61		8.21	2.28	4.6						
65		32.544	6.28	.83	8.14	2.29	6.1						
70	8.69	32.421	6.09	.93	8.17	2.28	7.2						
75	8.87	32.774	5.76	1.07	8.15	2.30	9.7						
80	8.95	32.841	5.47	1.20	8.12	2.30	11.8						
100		33.248	4.47	1.76	8.03	2.31	17.8						
125	8.75	33.617	3.51	1.91	7.95	2.33	23.6						
150	8.33	33.756	3.14	2.03	7.92	2.34	25.7						
200	7.54	33.939	2.75	2.28	7.86	2.34	29.8						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NM 65 44 34.3 124 38.4 W DATE 29 JUN 69 2008 OCT WIRE 06 DRY 59.1 WET 56.2 CRUISE Y6906													
WIND DIRECTION 32 VEL 04 KTS BAR 24 SWELL DIRECTION 29 H 03 T 06 CLOUD 8 AMT 5 BEATHER 02													
0	15.52	30.428						0	15.52	30.83	22.48	518.7	0
3	15.52	30.428	5.97	.25	8.24	2.21	.1	10	14.53	31.84	21.46	425.7	.047
6	14.80	31.554	6.12	.31	8.25	2.23	.1	20	11.61	32.37	24.44	331.7	.045
10	14.53	31.833	6.17	.33	8.25	2.27	.1	30	10.45	32.47	24.93	304.4	.117
15	12.55	32.307	6.62		8.25	2.26	.1	50	8.90	32.51	25.23	274.4	.175
25	11.11	32.425	6.97	.36	8.28	2.26	.1	75	8.15	32.64	25.44	256.4	.241
30	10.45	32.470	7.13	.46	8.27	2.26	.1	100	8.34	33.24	25.49	213.4	.100
35		32.484	7.14		8.28	2.28	.1	150	7.94	33.74	26.36	170.1	.196
40	9.30	32.474	7.06	.54	8.28	2.26	.6	200	7.30	33.90	26.54	153.4	.477
45		32.473	6.92		8.25	2.27	2.0						
50	8.80	32.507	6.58	.68	8.22	2.26	4.0						
55		32.543	6.42	.77	8.21	2.27	4.8						
60	8.78	32.584	6.28	.83	8.19	2.28	5.9						
65	8.43	32.621	6.14	.92	8.17	2.28	7.6						
70	8.18	32.634	6.12	1.11	8.14	2.28	8.6						
75	8.15	32.655	6.05	1.12	8.17	2.28	8.9						
80	8.41	32.614	5.68	1.13	8.14	2.28	11.1						
100		33.276	4.54	1.47	8.04	2.30	18.0						
125	8.35	33.483	3.58	1.82	7.05	2.33	23.8						
150	7.93	33.797	3.24	1.99	7.02	2.34	28.7						
200	7.30	33.905	3.12	2.10	7.01	2.34	29.1						

NM 65 44 32.6 N 124 40.4 W DATE 29 JUN 69 0213 OCT WIRE 00 DRY 57.8 WET 53.9 CRUISE Y6906
WIND DIRECTION 32 VEL 06 KTS BAR 23 SWELL DIRECTION 29 H 03 T 07 CLOUD 8 AMT 1 BEATHER 02

0	16.19	28.169	5.94		8.21	2.17	.1	0	16.19	28.17	20.50	727.4	0
3	16.19	28.169	5.94	.43	8.21	2.17	.1	10	13.77	32.22	24.11	382.4	.055
6	14.94	31.098	6.13	.46	8.25	2.26	.1	20	11.45	32.43	24.73	323.4	.091
10	13.77	32.211	6.24	.47	8.25	2.31	.1	30	10.20	32.49	24.99	289.1	.122
15		32.432			8.25	2.31		50	8.82	32.54	25.25	274.4	.174
25	10.67	32.437	6.99	.55	8.26	2.31	.1	75	7.94	32.74	25.53	246.1	.245
30	10.20	32.449	7.09	.58	8.28	2.31	.1	100	8.39	33.31	25.92	211.4	.302
35		32.511	7.14	.70	8.25	2.31	.2	150	8.32	33.51	26.32	174.4	.194
40	9.12	32.502	6.91	.70	8.24	2.31	1.8	200	7.53	33.92	26.52	154.4	.481
45		32.485	6.81	.68	8.22	2.31	2.9						
50	8.82	32.535	6.55	.88	8.21	2.33	4.4						
55		32.547	6.47	.68	8.20	2.31	4.9						
60	8.40	32.525	6.45	.90	8.19	2.37	5.7						
65	8.33	32.580	6.30	.91	8.17	2.31	6.8						
70	8.26	32.652	6.06	1.24	8.17	2.31	8.8						
75	7.98	32.732	5.88	1.23	8.14	2.33	10.6						
80	8.36	32.916	5.40	1.28	8.10	2.33	13.1						
100		33.306	4.40	1.52	8.02	2.34	18.2						
125	8.43	33.663	2.59	1.82	7.04	2.36	23.9						
150	8.32	33.802	3.16	1.96	7.00	2.37	26.2						
200	7.53	33.921	2.92	2.10	7.06	2.39	29.4						

NM 85 44 39.0 N 124 03.5 W DATE 30 JUN 69 1251 OCT WIRE 02 DRY 54.9 WET 53.8 CRUISE Y6906
WIND DIRECTION 34 VEL 12 KTS BAR 22 SWELL DIRECTION 29 H 03 T 08 CLOUD 4 AMT 8 BEATHER 02

0	15.29	31.629	5.87	.14	8.23	2.25	.1	0	15.29	31.63	23.35	455.3	0
3		31.624	5.88		8.22	2.23	.1	10	14.11	32.34	23.92	401.4	.043
6	15.16	31.656	5.88	.14	8.22	2.26	.1	20	11.23	32.46	24.78	314.4	.074
10	14.11	32.051	6.23	.14	8.21	2.26	.1	30	10.07	32.53	25.04	294.4	.109
15	12.34	32.374	6.65	.15	8.23	2.24	.1	50	9.07	32.55	25.22	277.7	.167
20	11.23	32.454	5.87	.19	8.25	2.29	.1	75	8.49	32.68	25.38	267.7	.234
30	10.07	32.523	7.13	.26	8.26	2.28	.1	100	8.81	33.32	25.86	217.4	.294
40		32.588	6.84		8.23	2.24	1.7	150	8.21	33.75	26.29	177.4	.393
50	9.07	32.543	6.72	.31	8.21	2.28	3.1	200	7.44	33.98	26.50	157.5	.477
75	8.69	32.674	6.02		8.16	2.28	7.5	250	6.97	33.77	26.64	144.4	.452
100	8.41	33.715	4.44		8.01	2.33	18.2	300	6.59	34.22	26.73	137.4	.423
125	8.32	33.588	3.83		7.96	2.33	22.6	400	5.77	34.37	26.88	124.7	.744
150	8.21	33.745	3.65		7.94	2.33	25.1	500	5.27	34.14	27.00	112.7	.472
199	7.47	33.842	3.36		7.91	2.34	31.6	600	4.81	34.22	27.10	104.0	.381
299	6.80	34.017	1.98		7.78	2.34	35.1	700	4.41	34.27	27.19	95.7	1.085
399	5.78	34.072	1.24		7.71	2.17	39.4	800	4.09	34.32	27.27	88.4	1.172
598	4.82	34.216	.44		7.65	2.40	43.7	1000	3.45	34.41	27.38	77.2	1.345
798	4.09	34.321	.29		7.65	2.43	45.4	1200	3.14	34.45	27.46	77.7	1.491
997	3.66	34.409	.40		7.65	2.44	45.4						
1197	3.15	34.451	.50		7.70	2.47	45.3						

OBSERVED								INTERPOLATED				DERIVED			
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	ΔD		
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ³)	(d, m)		
NM 105 44 39.3 N 124 30.3 W DATE 30 JUN 69 1624 GCT WIRE 01 DRY 55.0 WET 55.0 CRUISE 16904C															
WIND DIRECTION 00 VEL 12 KTS HAR 21 SWELL DIRECTION 12 H 03 T 07 CLCUD 4 AMT 6 WEATHER 02															
0	14.41	32.162	4.97	.36	8.20	2.25	.2	0	14.41	32.37	24.01	391.7	0		
5		32.355	4.88	.35	8.21	2.21	.1	10	14.42	32.37	24.01	392.1	.133		
10	14.42	32.363	4.89		8.21	2.23		20	14.47	32.39	24.10	393.5	.174		
20	14.47	32.387	4.04		8.20	2.23	.1	30	13.42	32.50	24.40	395.1	.115		
30	13.42	32.497	4.32	.36	8.22	2.23	.1	50	9.64	32.53	25.11	398.0	.179		
40		32.518	4.97	.64	8.24	2.21	.1	75	8.63	32.67	25.76	399.8	.264		
50	9.66	32.526	4.87	.64	8.23	2.23	.6	100	8.26	33.27	25.91	392.8	.077		
55	9.28	32.534	4.64	.63	8.21	2.25	1.8	150	7.37	33.80	26.38	398.4	.063		
60	9.08	32.539	4.52	.67	8.19	2.23	3.1	200	7.49	33.94	26.54	394.0	.043		
65	8.98	32.554	4.38	.70			3.9	250	6.97	33.99	26.65	394.0	.058		
75	8.62	32.660	4.04	.84	8.15	2.23	6.8	300	6.45	34.00	26.73	396.9	.029		
100	8.26	33.268	4.64	1.47	8.01	2.26	17.1	400	5.74	34.07	26.87	394.9	.054		
149	7.88	33.794	7.43	1.90	7.95	2.30	25.7	500	5.14	34.12	26.99	393.7	.078		
199	7.50	33.936	7.46	2.41	7.86	2.31	29.5	600	4.62	34.17	27.09	394.9	.067		
299	6.46	34.000	2.10	2.52	7.77	2.13	34.9	700	4.34	34.26	27.19	396.2	1.044		
394	5.79	34.064	1.31	2.78	7.70	2.34	39.3	800	4.15	34.33	27.27	398.4	1.060		
497	4.63	34.171	.54	3.10	7.64	2.37	44.5	1000	3.46	34.42	27.39	398.4	1.064		
796	4.16	34.332	.27		7.65	2.40		1200	3.17	34.47	27.48	390.0	1.096		
995	3.67	34.417	.34	3.16	7.68	2.41	45.8								
1194	3.18	34.471	.43	3.29	7.66	2.43	46.1								
NM 125 44 39.0 N 124 59.0 W DATE 30 JUN 69 2024 GCT WIRE 03 DRY 56.9 WET 56.2 CRUISE 16904C															
WIND DIRECTION 34 VEL 10 KTS HAR 21 SWELL DIRECTION 29 H 02 T 12 CLCUD 6 AMT 7 WEATHER 02															
0	14.64	32.506	5.94	.41	8.22	2.31	.3	0	14.64	32.51	24.16	377.4	0		
5		32.506	5.98		8.23	2.30	.1	10	14.47	32.51	24.19	374.9	.138		
10	14.47	32.507	5.98	.41	8.23	2.30	.2	20	13.38	32.48	24.40	375.3	.074		
20	13.37	32.473	4.22	.41	8.24	2.30	.8	30	10.93	32.46	24.84	373.4	.009		
30	10.93	32.453	4.80	.40	8.26	2.30	.4	50	8.69	32.46	25.17	391.4	.047		
40		32.436	7.03		8.26	2.30	.1	75	7.91	32.53	25.38	392.3	.135		
50	8.49	32.455	4.84	.44	8.27	2.30	1.2	100	7.66	33.01	25.79	393.4	.096		
55	8.79	32.455	4.74	.44	8.25	2.30	1.7	150	7.99	33.82	26.37	399.1	.104		
60	8.55	32.464	4.62	.58	8.23	2.30	3.1	200	7.12	33.74	26.60	398.5	.073		
65	8.40	32.474	4.48	.61	8.22	2.30	3.9	250	6.55	33.99	26.71	398.0	.045		
75	7.90	32.529	4.35	.82	8.19	2.30	6.3	300	6.17	34.01	26.78	392.4	.012		
100	7.65	33.010	5.36	1.49	8.11	2.31	14.3	400	5.41	34.09	26.91	390.9	.039		
149	8.00	33.412	7.19	1.94	7.92	2.36	26.5	500	5.14	34.17	27.03	390.1	.064		
199	7.13	33.942	2.96	2.21	7.87	2.37	30.0	600	4.73	34.24	27.13	391.5	.040		
299	6.18	34.012	1.93	2.59	7.78	2.39	35.8	700	4.35	34.30	27.22	391.1	1.057		
399	5.62	34.091	1.16	2.89	7.70	2.40	39.2	800	4.01	34.35	27.30	395.9	1.047		
594	4.74	34.236	.44	3.26	7.65	2.44	41.1	1000	3.42	34.43	27.42	395.1	1.006		
797	4.02	34.350	.42	3.34	7.65	2.46	44.0	1200	3.02	34.47	27.49	398.3	1.051		
994	3.43	34.427	.42	3.35	7.67	2.48	44.3								
1194	3.03														
NM 145 44 39.0 N 127 27.3 W DATE 30 JUN 69 2319 GCT WIRE 05 DRY 60.0 WET 56.9 CRUISE 16906C															
WIND DIRECTION 34 VEL 04 KTS HAR 21 SWELL DIRECTION 70 H 01 T 06 CLCUD 4 AMT 1 WEATHER 01															
0	14.71	32.420	4.00	.42	8.21	2.25	.1	0	14.71	32.42	24.08	395.5	0		
5		32.418	4.08	.49	8.21	2.25	.1	10	14.04	32.42	24.21	373.4	.034		
10	14.04	32.416	4.06	.51	8.22	2.25	.1	20	11.95	32.42	24.62	374.0	.073		
20	11.95	32.413	4.50	.51	8.24	2.25	.1	30	10.82	32.43	24.82	375.2	.006		
30	10.89	32.423	4.80	.51	8.25	2.25	.1	50	9.64	32.48	25.17	392.0	.045		
40		32.451	4.97	.51	8.25	2.25	.1	75	8.42	32.50	25.27	393.2	.035		
50	9.04	32.440	4.88	.52	8.27	2.25	.1	100	7.67	32.57	25.45	394.3	.021		
55	8.91	32.492	4.80	.53	8.25	2.25	1.1	150	7.60	33.48	26.17	398.4	.012		
59	8.87	32.494	4.72	.55	8.24	2.26	1.4	200	7.25	33.87	26.52	395.9	.094		
64	8.82	32.506	4.62	.59	8.24	2.26	1.7	250	6.47	33.89	26.44	394.9	.073		
74	8.52	32.494	4.50	.90	8.21	2.25	3.8	300	5.83	33.91	26.76	393.4	.043		
99	7.68	32.559	4.35	.99	8.16	2.26	6.4	400	4.73	33.96	26.91	390.5	.070		
149	7.60	33.472	4.37	1.49	8.00	2.31	21.2	500	4.44	34.07	27.03	390.3	.085		
194	7.28	33.462	3.76	1.86	7.97	2.33	25.4	600	4.44	34.20	27.13	391.0	.040		
297	5.67	33.907	1.02	2.49	7.85	2.34	32.6	700	4.25	34.28	27.22	391.1	1.047		
397	4.74	33.452	1.98	2.70	7.75	2.36	37.2	800	4.01	34.34	27.29	396.4	1.077		
595	4.49	34.200	.42	3.26	7.64	2.40	42.0	1000	3.52	34.41	27.39	397.4	1.041		
791	4.03	34.339	.25	3.31	7.64	2.43	43.0	1200	3.04	34.46	27.48	397.7	1.088		
992	3.54	34.411	.39	3.30	7.66	2.44	43.2								
1190	3.08	34.457	.40	3.32	7.68	2.46	43.3								

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
NM 165 44 39.3 N 127 54.8 W DATE 01 JUL 69 0255 GCT WIRE 00 DRY 54.5 WET 55.7 CRUISE Y6904F													
WIND DIRECTION 00 VEL 04 KTS MAR 20 SWELL DIRECTION 29 H 01 T 06 CLOUD 4 AMT 2 WEATHER 02													
0	14.79	32.424	6.02	.33	8.21	2.25	.1	0	14.79	32.43	24.06	344.8	0
5		32.419	6.04		8.21	2.25	.1	10	13.98	32.42	24.23	371.4	.034
10	13.98	32.417	6.04	.47	8.22	2.25	.1	20	12.17	32.43	24.54	376.4	.073
20	12.17	32.429	6.52	.46	8.24	2.25	.1	30	10.44	32.46	24.84	317.2	.106
30	10.44	32.450	6.80	.46	8.24	2.25	.1	40	9.27	32.47	25.13	284.2	.166
40		32.456	6.92		8.24	2.25	.1	50	8.25	32.53	25.32	267.4	.235
50	9.27	32.470	6.90	.48	8.24	2.25	.1	60	7.80	32.57	25.50	251.2	.300
55	8.85	32.475	6.64	.60	8.23	2.25	1.7	70	7.65	32.56	25.43	244.1	.327
60	8.72	32.486	6.62	.59	8.22	2.25	2.3	80	7.07	32.85	26.53	154.9	.430
65	8.56	32.491	6.48	.64	8.21	2.25	3.3	90	6.35	32.87	26.64	144.4	.405
75	8.25	32.521	6.38	.79	8.19	2.25	4.6	100	5.64	33.10	26.75	134.4	.475
99	7.81	32.675	6.02	.98	8.16	2.26	8.5	150	5.04	34.40	26.94	117.4	.799
149	7.06	32.533	4.74	1.73	8.04	2.30	19.1	200	4.61	34.17	27.09	107.5	.907
199	7.09	33.840	4.23	1.76	7.99	2.33	23.9	250	4.24	34.20	27.15	99.1	1.209
294	5.70	33.899	2.92	2.39	7.45	2.48	32.7	300	4.08	34.27	27.23	92.0	1.104
397	5.10	34.099	1.41	2.85	7.70	2.36	39.2	400	3.94	34.34	27.30	85.7	1.143
596	4.27	34.193	.66	3.13	7.63	2.39	43.5	500	3.45	34.43	27.41	75.6	1.154
795	3.95	34.341	.25	3.27	7.44	2.42	44.5	600	3.03	34.47	27.48	68.9	1.499
993	3.47	34.425	.34	3.31	7.65	2.44	44.8						
1192	3.05	34.465	.47	3.18	7.72	2.46	44.2						

C 200 44 08.3 N 126 59.3 W DATE 01 JUL 69 1500 GCT WIRE DRY 58.0 WET 54.8 CRUISE Y6904F													
WIND DIRECTION 35 VEL 04 KTS BAR 19 SWELL DIRECTION 29 H 02 T 06 CLOUD 6 AMT 7 WEATHER 02													
0	15.05	32.141	5.93	.64	8.24	2.30	.2	0	15.05	32.15	23.79	412.8	0
3	14.89	32.269	5.90	.57	8.23	2.31	.1	10	14.60	32.49	24.15	378.4	.040
6	14.65	32.476	5.98	.58	8.23	2.31	.1	20	14.50	32.49	24.17	377.0	.077
10	14.60	32.489	5.99	.58	8.23	2.30	.1	30	12.06	32.52	24.68	329.5	.113
15	14.56	32.485	6.00	.57	8.23	2.31	.1	40	9.50	32.54	25.14	244.9	.174
20	14.50	32.484	6.00	.57	8.23	2.31	.1	50	8.77	32.73	25.40	250.4	.242
30	12.06	32.516	6.41	.56	8.25	2.31	.1	60	8.84	32.30	25.84	212.4	.302
40	9.50	32.535	6.73	.84	8.23	2.30	1.9	70	8.16	32.80	26.33	172.4	.400
75	8.77	32.722	5.98	1.02	8.16	2.31	8.0	80	7.61	33.97	26.55	151.1	.482
100	8.84	33.291	4.42	1.72	8.02	2.34	17.8						
125	8.25	33.631	3.79	2.28	7.96	2.36	23.4						
150	8.16	33.796	3.34	2.27	7.93	2.39	25.8						
200	7.61	33.972	2.61	2.46	7.86	2.39	30.2						

C 206 44 08.4 N 126 18.0 W DATE 01 JUL 69 1854 GCT WIRE 00 DRY 58.3 WET 53.3 CRUISE Y6904F													
WIND DIRECTION 33 VEL 04 KTS BAR 19 SWELL DIRECTION 29 H 02 T 06 CLOUD 6 AMT 7 WEATHER 02													
0	15.90	30.818	5.84	.44	8.23	2.21	.3	0	15.90	30.82	22.59	527.4	0
3	15.90	30.824	5.85	.43	8.23	2.21	.4	10	15.74	31.03	22.79	509.4	.052
6	15.81	30.965	5.84	.42	8.23	2.23	.4	20	12.59	32.16	24.10	354.2	.096
10	15.74	31.021	5.84	.43	8.23	2.23	.4	30	10.38	32.44	24.92	304.8	.124
15	14.73	31.612	6.11	.41	8.23	2.25	.5	40	9.05	32.55	25.22	277.5	.187
20	12.59	32.159	6.56	.40	8.25	2.26	.5	50	7.92	32.44	25.31	269.2	.256
30	10.38	32.435	7.27	.45	8.26	2.28		60	7.65	33.01	25.64	234.0	.319
35	9.95	32.490	7.38	.66	8.28	2.28		70	8.05	33.79	26.34	172.5	.422
40	9.30	32.521	8.08	.64	8.25	2.28	.5	80	7.46	33.93	26.54	154.1	.503
45	9.21	32.545	6.85	.63	8.23	2.28	2.5						
50	9.05	32.542	6.74	.62	8.22	2.24	3.5						
75	7.91	32.437	6.67	.62	8.21	2.26	4.9						
100	8.65	33.005	5.14	.96	8.10	2.30	13.7						
150		33.780	3.28	1.63	7.93	2.33	25.5						
200	7.46	33.931	2.90	1.89	7.88	2.34	29.1						

C 212 44 08.2 N 125 37.0 W DATE 01 JUL 69 2243 GCT WIRE 00 DRY 61.1 WET 57.1 CRUISE Y6904F													
WIND DIRECTION 32 VEL 10 KTS BAR 14 SWELL DIRECTION 29 H 02 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	16.76	28.104	5.86	.12	8.23	2.07	.1	0	16.76	28.11	20.33	744.3	0
3	16.76	28.115	5.86	.16	8.23	2.07	.1	10	15.91	31.72	23.70	421.5	.058
6	16.43	28.240	5.86	.18	8.22	2.07	.1	20	11.56	32.38	24.65	331.4	.096
10	13.91	31.714	6.37	.29	8.25	2.23	.1	30	10.12	32.46	24.98	300.0	.128
15	12.67	32.190	6.60	.34	8.25	2.25	.1	40	8.54	32.48	25.25	274.8	.185
20	11.65	32.374	6.85	.34	8.26	2.25	.1	50	8.01	32.56	25.38	262.1	.252
30	10.13	32.440	7.19	.43	8.28	2.25	.1	60	8.03	33.04	25.74	227.7	.313
35	9.74	32.477	7.24	.46	8.24	2.26	.1	70	8.04	33.74	26.32	171.9	.412
40	9.18	32.480	7.16	.71	8.25	2.25	.9	80	7.48	33.92	26.52	155.5	.494
45	8.80	32.481	6.95	.71	8.23	2.31	2.7						
50	8.54	32.478	6.82	.71	8.22	2.25	3.7						
75	8.01	32.552	6.30	.70	8.18	2.23	7.8						
100	8.03	33.077	4.97	1.43	8.04	2.30	14.5						
150	8.04	33.759	3.36	2.04	7.93	2.33	25.7						
200	7.48	33.914	2.95	2.27	7.87	2.34	28.6						

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\delta$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
C 21A 44 08.0 N 125 09.3 W DATE 02 JUL 69 0142 GCT WIRE 05 DRY 60.0 WET 55.0 CRUISE Y6906C													
WIND DIRECTION 33 VEL 04 KTS BAR 10 SWELL DIRECTION 14 H 02 T 06 CLOUD 6 AMT R WEATHER 02													
0	16.12	24.711	6.00	.7	8.29	2.05	.1	0	16.13	24.22	19.02	864.0	0
3	16.13	24.280	5.95	.6	8.29	2.05	.1	10	14.44	31.35	23.28	441.5	.167
6	15.80	29.724	5.97	.6	8.23	2.23	.1	20	10.11	32.42	24.35	312.7	.105
10	14.56	31.345	6.21	.15	8.24	2.26	.1	30	8.98	32.48	25.18	280.4	.134
15	11.64	32.205	6.94	.24	8.26	2.30	.1	50	8.39	32.50	25.28	271.0	.184
20	10.11	32.417	7.26	.30	8.25	2.31	.1	75	8.07	32.81	25.58	243.7	.253
30	8.98	32.479	7.15	.44	8.25	2.31	1.1	100	8.61	32.54	26.06	194.4	.304
35	8.72	32.478	6.83	.75	8.22	2.31	3.4	150	8.07	33.84	26.38	164.5	.400
40	8.56	32.468	6.77	.82	8.21	2.30	3.6	200	7.25	33.94	26.58	150.3	.480
45	8.53	32.503	6.24	.96	8.17	2.31	7.4						
50	8.39	32.499	6.42	.96	8.18	2.31							
75	8.07	32.810	5.61	1.09	8.12	2.23	11.6						
100	8.61	33.530	7.78	1.74	7.96	2.36	22.4						
149	8.08	33.837	3.05	2.09	7.90	2.37	27.1						
199	7.27	33.943	2.90	2.27	7.86	2.40	30.0						

A 219 44 08.1 N 124 49.1 W DATE 02 JUL 69 0408 GCT WIRE 00 DRY 59.4 WET 56.9 CRUISE Y6904C													
WIND DIRECTION 24 VEL 02 KTS BAR 18 SWELL DIRECTION 13 H 02 T 05 CLOUD 6 AMT R WEATHER 02													
0	14.14	31.040	6.48	.28	8.28	2.26	.1	0	14.14	31.04	23.13	475.4	0
3	13.50				8.27	2.28		10	12.37	31.54	23.87	405.1	.044
6	13.00	31.262	6.57	.34	8.27	2.28	.1	20	10.04	32.33	24.48	308.4	.080
10	12.32	31.535	6.61	.39	8.26	2.30	.7	30	8.92	32.92	25.53	247.2	.108
15	11.05	31.983	6.47	.58	8.22	2.31	2.3	50	8.25	33.50	26.08	195.3	.152
20	10.06	32.323	6.10	.82	8.19	2.31	5.3	75	8.04	33.88	26.41	164.2	.197
30	8.92	32.920	4.73	1.45	8.03	2.34	15.1						
35	8.54	33.150	4.06	1.75	7.97	2.34	19.3						
40	8.29	33.376	3.70	1.92	7.95	2.36	22.0						
45	8.34	33.358	3.65	1.93	7.94	2.36	22.3						
50	8.25	33.491	3.33	2.07	7.91	2.36	24.5						
75	8.04	33.874	2.47	2.40	7.84	2.39	29.9						

C 228 44 04.3 N 124 35.1 W DATE 02 JUL 69 1359 GCT WIRE 00 DRY 60.7 WET 56.6 CRUISE Y6906C													
WIND DIRECTION 22 VEL 04 KTS BAR 20 SWELL DIRECTION 33 H 01 T 05 CLOUD 6 AMT R WEATHER 02													
0	14.96	30.776	6.22	.31	8.28	2.21	.1	0	14.96	30.78	22.76	511.1	0
3	14.48	31.746	6.46	.31	8.26	2.25	.1	10	13.55	31.75	23.80	412.0	.046
6	14.38	31.732	6.45	.30	8.26	2.23	.1	20	9.07	32.92	25.51	244.7	.079
10	13.55	31.750	6.60	.39	8.25	2.25	.2	30	8.35	33.30	25.91	211.3	.102
15	11.72	32.301	6.31	.48	8.19	2.26	2.9	50	8.08	33.68	26.25	170.5	.141
20	9.07	32.920	4.81	.89	8.04	2.30	13.4	75	7.73	33.88	26.46	160.1	.184
30	8.35	33.292	3.62	.98	7.94	2.30	23.0	100	7.55	33.95	26.54	152.5	.223
35	8.34	33.374	3.54	1.02	7.92	2.31	24.5						
40	8.27	33.507	3.11	1.09	7.88	2.31	27.5						
45	8.11	33.609	2.83	1.14	7.83	2.33	29.4						
50	8.08	33.672	2.64	1.18	7.84	2.33	31.4						
75	7.73	33.871	1.85	1.33	7.76	2.33	36.3						
100	7.54	33.943	1.90	1.34	7.77	2.34	36.5						

C 230 44 08.5 N 124 21.4 W DATE 02 JUL 69 1540 GCT WIRE 01 DRY 60.0 WET 55.5 CRUISE Y6906C													
WIND DIRECTION 24 VEL 04 KTS BAR 20 SWELL DIRECTION 33 H 02 T 05 CLOUD 6 AMT R WEATHER 02													
0	14.36	31.898	6.58	.51	8.28	2.25	.1	0	14.36	31.90	23.75	414.7	0
3	14.17	32.934	6.63	.48	8.26	2.25	.2	10	8.93	32.95	25.55	245.5	.033
6	12.23	32.244	6.32	.54	8.26	2.26	1.4	20	8.39	33.17	25.81	221.2	.056
10	8.93	32.941	4.91	1.29	8.25	2.28	13.6	30	8.41	33.41	25.99	203.4	.078
15	8.50	32.991	4.55	1.45	8.19	2.28	15.9	50	8.04	33.74	26.31	174.0	.115
20	8.39	33.164	4.08	1.59	8.04	2.30	18.7	75	7.79	33.91	26.48	154.1	.157
30	8.41	33.409	3.35		7.94	2.30	24.2						
35	8.31	33.561	.29	2.01	7.92	2.31	24.6						
40	8.17	33.665	2.88	2.03	7.88	2.31	27.9						
45	8.16	33.715	2.90	2.02	7.83	2.31	28.7						
50	8.04	33.738	2.74	2.03	7.84	2.33	33.8						
75	7.78	33.907	1.60	2.49	7.76	2.33	35.3						

C 231 44 04.7 N 124 14.5 W DATE 02 JUL 69 1725 GCT WIRE 00 DRY 57.9 WET 56.0 CRUISE Y6906C													
WIND DIRECTION 24 VEL 04 KTS BAR 21 SWELL DIRECTION 32 H 02 T 05 CLOUD 6 AMT R WEATHER 02													
0	13.32	32.016	7.34	.27	8.35	2.25	.1	0	13.32	32.02	24.05	387.4	0
3	13.01	32.079	7.53		8.33	2.25		10	8.95	32.79	25.42	257.3	.032
6	11.46	32.268	6.44	.49	8.24	2.26	.1	20	8.42	33.13	25.77	224.4	.056
10	8.95	32.784	6.30	1.18	8.09	2.24	9.5	30	8.27	33.51	26.09	194.2	.077
15	8.48	32.903	4.64	1.44	8.05	2.28	14.2						
20	8.42	33.127	4.08	1.65	7.98	2.28	18.3						
30	8.27	33.506	3.27	1.95	7.93	2.30	24.4						
35	8.19	33.612	2.84	2.05	7.87	2.30	27.2						
40	8.10	33.687	2.75	2.10	7.86	2.31	28.3						
45	8.16	33.755	3.03	2.11	7.87	2.31	27.3						

OBSERVED								INTERPOLATED				DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	ΔD	
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ⁶)	(dyn.m)	
C 232 44 08.3 N 124 10.3 W DATE 07 JUL 69 18-2 ACT WIRE 00 DRY 54.5 WET 54.0 CRUISE Y6906C														
WIND DIRECTION 21 VEL 06 KTS BAR 21 SWELL DIRECTION 12 M 02 T 05 CLOUD 06 AMT 04 WEATHER														
0	11.46	32.445	7.99	.70	8.72	2.31	.1	0	11.46	32.45	24.74	322.7	0	
3	11.01	32.529	7.85	.64	8.71	2.33	.1	10	8.64	33.01	25.64	236.4	.024	
6	9.30	32.769	4.38	1.19	8.09	2.31	8.4	20	8.45	33.32	25.91	211.1	.040	
10	8.64	33.006	4.52	1.34	8.03	2.33	14.4	30	8.24	33.60	26.16	187.3	.070	
15	8.51	33.213	7.93	1.61	7.97	2.33	19.4							
20	8.45	33.312	7.71	1.66	7.95	2.34	21.5							
30	8.24	33.593	2.87	2.02	7.87	2.36	26.4							
C 235 44 23.2 N 124 09.9 W DATE 02 JUL 69 2056 ACT WIRE 00 DRY 61.7 WET 58.2 CRUISE Y6906C														
WIND DIRECTION 14 VEL 10 KTS BAR 22 SWELL DIRECTION 12 M 02 T 10 CLOUD 6 AMT 6 WEATHER 02														
0	13.60	31.859	7.29	.53			.1	0	13.60	31.86	23.87	464.8	0	
3	12.34	32.152	7.23	.56			.1	10	8.63	32.77	24.41	241.3	.033	
6	10.10	32.650	7.27	1.07			8.9	20	8.47	33.12	25.75	224.1	.047	
10	8.67	32.764	5.41	1.13			9.2	30	8.28	33.57	26.14	197.0	.074	
15	8.73	32.916	4.88	1.28			12.6							
20	8.47	33.113	4.24	1.53			17.2							
30	8.28	33.565	2.95	1.96			25.6							
NM 15 44 39.0 N 124 24.5 W DATE 02 JUL 69 0002 ACT WIRE 00 DRY 60.6 WET 57.8 CRUISE Y6906C														
WIND DIRECTION 34 VEL 04 KTS BAR 23 SWELL DIRECTION 12 M 02 T 06 CLOUD 8 AMT 8 WEATHER 02														
0	15.46	29.738	6.21	.39	8.30	2.15	.1	0	15.46	29.74	21.86	597.4	0	
3	17.97	30.439	4.54	.34	8.30	2.17	.1	10	10.38	32.39	24.88	308.0	.045	
6	12.24	31.954	4.78	.34	8.27	2.25	.1	20	8.93	32.48	25.19	240.0	.075	
10	10.38	32.349	6.99	.40	8.26	2.26	.1	30	8.46	32.50	25.27	212.3	.102	
15	9.43	32.453	7.15	.44	8.24	2.26	.1	50	8.13	32.67	25.45	255.2	.155	
20	8.93	32.470	7.04	.79	8.25	2.26	.8	75	8.10	33.44	26.06	194.0	.212	
30	8.46	32.492	6.54	.86	8.19	2.26	4.8							
35	8.27	32.485	4.53	.85	8.20	2.26	5.3							
40	8.33	32.513	4.40	.88	8.18	2.26	5.8							
45	8.28	32.546	4.98	.98	8.16	2.26	8.1							
50	8.13	32.663	5.78	1.07	8.13	2.26	9.4							
75	8.10	33.431	3.78	1.76	7.96	2.30	22.5							
NM 5 44 39.0 N 124 10.5 W DATE 02 JUL 69 0148 ACT WIRE 00 DRY 58.2 WET 57.5 CRUISE Y6906C														
WIND DIRECTION 26 VEL 06 KTS BAR 23 SWELL DIRECTION 28 M 01 T 06 CLOUD 2 AMT 8 WEATHER 02														
0	13.45	30.688	7.09	.38			.4	0	13.45	30.69	23.00	488.0	0	
3	10.68	31.003	4.40	.83			.8	10	9.31	32.63	25.24	274.8	.078	
6	9.58	32.444	5.39	1.29			1.2	20	8.40	33.12	25.76	225.1	.063	
10	9.31	32.623	5.01	1.33			5.0	30	8.21	33.60	26.17	184.8	.084	
15	8.60	32.922	4.34	1.60			13.1							
20	8.40	33.114	3.90	1.75			16.5							
30	8.21	33.594	2.54	2.22			26.7							
40	7.94	33.741	2.42	2.30			29.5							
CH 5 43 19.7 N 124 24.9 W DATE 27 JUN 69 1945 ACT WIRE 00 DRY 58.3 WET 55.4 CRUISE C6906F														
WIND DIRECTION 19 VEL 04 KTS BAR 20 SWELL DIRECTION 26 M 06 T 08 CLOUD 6 AMT 8 WEATHER 02														
0	13.44		4.43	.57			.5	0	13.44	30.69	22.96	491.4	0	
5	13.60	31.893	4.42	.72			.7	10	11.94	32.50	24.68	327.7	.041	
10	11.94	32.493	4.26	1.29			2.5	20	9.91	33.40	25.74	227.1	.069	
15	10.62	33.014	5.20	1.66			3.7	30	8.88	33.61	26.07	195.9	.090	
20	9.91	33.395	4.49	2.18			5.3							
25	8.98	33.588	7.74	2.17			5.2							
30	8.88	33.603	4.85	2.22			5.3							
35	8.64	33.654	3.25	2.25			26.4							
40	8.52	33.666	7.02											
45	8.48	33.700	7.02	2.34			27.6							
CH 15 43 19.5 N 124 40.0 W DATE 27 JUN 69 2225 ACT WIRE 00 DRY 59.5 WET 56.5 CRUISE C6906F														
WIND DIRECTION 19 VEL 10 KTS BAR 21 SWELL DIRECTION 26 M 07 T 08 CLOUD 8 AMT 6 WEATHER 02														
0	14.70	30.954	4.07	.59			.1	0	14.70	30.96	22.95	492.6	0	
5	12.89	31.576	5.24	.56			.1	10	12.67	32.52	24.56	339.4	.042	
10	12.67	32.511	7.40	.64			.1	20	10.93	32.54	24.90	307.2	.074	
20	10.93	32.539	7.45	.64			.1	30	9.26	32.49	25.14	284.7	.104	
30	9.26	32.443	4.41	.69			1.5	50	8.71	32.68	25.37	262.8	.154	
40	8.89	32.509	4.41	.85			3.5	75	8.48	33.39	25.97	206.6	.217	
50	8.71	32.675	7.39	1.08			7.3	100	8.56	33.77	26.25	180.0	.265	
60	8.67	33.049	7.47	1.38			14.2							
71	8.50	33.288	2.95	1.74			18.5							
80	8.48	33.521	2.15	1.94			20.9							
90	8.53	33.734	1.76											
100	8.56	33.769	2.50	2.22			25.9							
125	7.72	33.894	2.24	2.22			25.5							

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CH	AA	13 10.4 N	124 22.1 W	DATE 28 JUN 69	1245 ACT	WIRE	DRY 37.2	WET 55.0	CRUISE C6906F
WIND	DIRECTION	31 VFL	11 KTS	BAR 24	SWELL DIRECTION	TO M	OS T	OB CLOUD	8 ANT
									2 WEATHER 01
0	15.1R	31.560	4.85				0 15.1R	31.36	23.32 486.1 0
4	15.1R	31.460	4.86	.42		.4	10 15.21	31.37	23.31 458.7 .044
15	14.21	31.561	4.97	.41		.3	20 15.07	31.47	23.57 433.9 .030
20	14.07	31.465	4.92	.41		.2	30 13.38	32.49	26.40 355.4 .130
31	13.38	32.463	4.28	.51		.1	10 10.32	32.58	25.04 294.7 .195
40	11.46	32.556	4.71	.56		.2	75 7.34	32.67	25.27 273.0 .264
55	10.12	32.577	4.81	.53		.2	100 7.88	32.88	25.64 236.1 .330
60	9.01	32.606	4.75	.66		2.2	150 7.76	33.81	26.41 166.1 .430
74	8.34	32.647	4.51	.81		5.0	200 7.25	33.93	26.57 151.3 .509
103	7.47	32.674	4.50	1.20		11.7			
126	4.04	33.676	7.45	1.69		22.5			
150	7.78	33.609	7.94	1.89		24.9			
178	7.51	33.668	7.11	1.96		24.6			
200		33.930	2.62	2.12		28.3			

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
CH 104 43 19.5 N 126 43.3 W DATE 29 JUN 69 0142 GCT WIRE 04 DRY 57.0 WET 54.5 CDRISE C690AT													
WIND DIRECTION 30 VEL 15 KTS BAR 25 SWELL DIRECTION 12 H 06 T 10 CLOUD 6 AMT R WEATHER 02													
0	15.26	31.567	6.19	.41			.2	0	15.26	31.57	27.32	454.6	0
5	15.26	31.575	5.28	.40			.1	10	14.31	32.42	24.15	378.4	.142
10	14.31	32.410	5.83	.45			.1	20	13.15	32.48	24.44	351.1	.178
20	13.15	32.478	5.11	.46			.1	30	11.72	32.51	24.74	323.3	.112
30	11.72	32.5	4.79	.45			.1	50	9.28	32.48	25.13	285.6	.173
40	10.08	32.400	7.11	.51			.1	75	8.30	32.53	25.32	268.4	.242
50	9.28	32.480	6.92	.60			.9	100	7.83	32.97	25.74	228.9	.304
75	8.30	32.521	6.44	.77			4.6	150	7.61	33.78	26.44	166.7	.403
100	7.83	32.969	5.37	1.09			10.9	200	6.85	33.89	26.59	148.6	.442
125	7.93	33.538	4.15	1.58			18.8						
150	7.61	33.774	3.83	1.65			20.0						
175	7.33	33.858	3.50	1.96			24.5						
200	6.85	33.893	3.33										

CH 125 43 19.5 N 127 10.1 W DATE 29 JUN 69 0540 GCT WIRE 00 DRY 56.4 WET 53.0 CDRISE C690AT													
WIND DIRECTION 30 VEL 10 KTS BAR 26 SWELL DIRECTION 29 H 06 T 07 CLOUD 6 AMT R WEATHER 02													
0	14.24	32.490	6.15	.49			.1	0	14.24	32.50	24.23	370.4	0
5	14.25	32.491	6.07	.47			.1	10	14.27	32.50	24.22	371.7	.137
10	14.27	32.490	5.98				.1	20	14.25	32.49	24.23	371.7	.174
20	14.25	32.488	6.06	.48			.1	30	12.66	32.49	24.44	341.4	.110
30	12.66	32.488	6.67	.48			.1	50	8.72	32.49	25.22	277.0	.172
40	9.82	32.492	6.99	.62			1.3	75	8.19	32.56	25.35	264.1	.239
50	8.72	32.483	6.75	.67			2.4	100	7.73	33.16	25.74	213.4	.299
75	8.19	32.559	6.27	.87			5.8	150	7.52	33.86	26.47	159.9	.492
100	7.73	33.153	4.98	1.47			16.0	200	6.85	33.94	26.63	145.4	.469
125	7.60	33.615	4.23	1.77			21.7						
150	7.51	33.852	3.51	2.06			25.5						
175	7.26	33.928	3.06	2.10			29.3						
200		33.936	3.18	2.20			29.7						

CH 145 43 19.4 N 127 39.0 W DATE 29 JUN 69 1010 GCT WIRE 00 DRY 54.8 WET 52.8 CDRISE C690AT													
WIND DIRECTION 33 VEL 10 KTS BAR 25 SWELL DIRECTION 10 H 06 T 08 CLOUD 6 AMT R WEATHER 02													
0	14.40	32.442	2.50	.49			.1	0	14.40	32.45	24.16	377.4	0
5	14.42	32.442	2.72	.45			.1	10	14.40	32.44	24.16	378.7	.038
10	14.40	32.437	5.25	.51			.1	20	14.24	32.46	24.19	374.7	.075
20	14.26	32.450	6.06	.49			.1	30	11.58	32.45	24.72	325.1	.110
30	11.58	32.449	6.94	.47			.1	50	8.78	32.46	25.13	281.1	.171
40	9.52	32.446	7.23	.53			.1	75	8.27	32.50	25.30	269.7	.240
50	8.78	32.440	7.00	.64			1.8	100	7.78	33.00	25.75	226.4	.302
75	8.27	32.498	6.50	.87			5.8	150	8.09	33.84	26.37	169.7	.401
100	7.77	32.991	5.27	1.42			12.9	200	7.18	33.94	26.45	149.7	.480
125	8.17	33.520	2.98	1.67			20.3						
150	8.09	33.832	2.23	1.97			24.4						
175	7.80	33.923	1.41	2.01			24.7						
200	7.18	33.938	1.60	2.06			26.1						

CH 165 43 20.0 N 128 05.0 W DATE 29 JUN 69 1600 GCT WIRE 01 DRY 56.0 WET 53.3 CDRISE C690AT													
WIND DIRECTION 35 VEL 08 KTS BAR 25 SWELL DIRECTION 29 H 04 T 07 CLOUD 6 AMT R WEATHER 02													
0	14.14	32.478	4.29	.49			.2	0	14.14	32.48	24.24	369.1	0
5	14.16	32.473	6.10	.53			.1	10	14.14	32.46	24.24	370.3	.037
10	14.14	32.474	6.18	.52			.1	20	12.97	32.46	24.45	349.7	.073
20	12.97	32.452	6.24	.58			.1	30	10.81	32.50	24.79	308.1	.106
30	10.81	32.498	6.99	.57			.3	50	9.15	32.45	25.13	246.1	.165
40	9.44	32.442	7.06	.58			.3	75	8.17	32.62	25.41	259.7	.234
50	9.15	32.446	6.94	.59			.4	100	7.89	33.02	25.76	226.1	.294
75	8.17	32.614	6.18	.97			6.9	150	7.52	33.79	26.42	164.3	.392
100	7.88	33.013	5.32	1.30			12.9	200	6.99	33.90	26.59	149.7	.471
125	7.76	33.603	4.54	1.64			19.9						
150	7.51	33.782	4.14										
175	7.26	33.852	3.74	2.00			25.6						
200	6.99	33.902	3.46										

CH 185 43 20.0 N 128 32.0 W DATE 29 JUN 69 1910 GCT WIRE 01 DRY 55.3 WET 53.3 CDRISE C690AT													
WIND DIRECTION 32 VEL 05 KTS BAR 26 SWELL DIRECTION 31 H 05 T 08 CLOUD 6 AMT R WEATHER 02													
0	13.99	32.461	6.27	.60			.7	0	13.99	32.47	24.26	368.1	0
5	13.99	32.461	6.15	.51			.5	10	13.98	32.46	24.26	368.1	.037
10	13.98	32.455	6.16	.50			.5	20	13.58	32.46	24.34	360.3	.073
20	13.58	32.457	6.16	.49			.5	30	11.59	32.50	24.75	321.3	.107
30	11.59	32.494	6.91	.47			.4	50	9.00	32.44	25.16	283.1	.168
40	10.18	32.431	6.94	.61			.3	75	8.34	32.58	25.36	264.1	.236
50	9.00	32.447	6.81	.61			.8	100	8.00	33.05	25.77	226.1	.297
75	8.34	32.688	6.23	1.03			6.2	150	7.67	33.72	26.35	171.1	.397
100	8.00	33.047	5.24	1.24			12.4	200	7.03	33.89	26.57	150.3	.477
125	8.11	33.435	4.62	1.53			17.3						
150	7.66	33.720	3.81	1.84			21.9						
175	7.46	33.818	3.64	1.87			23.2						
200	7.03	33.894	3.54	2.01			24.8						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(x10 ⁶)	(dyn.m)
CH 205 43 20.0 N 128 58.5 W DATE 29 JUN 1972 01 00 WIRE 03 DRY 66.0 -ET 43.1 CRUISE CAGDAR													
WIND DIRECTION 32 VFL 06 KTS HAR 26 SWELL DIRECTION 11 H 04 T 08 CLOUD 6 AMT 4 WEATHER 02													
0	14.24	32.464	6.00	.53			.2	0	14.24	32.47	24.21	372.8	0
5	14.07	32.464	5.77	.53			.2	10	13.94	32.47	24.26	367.8	.17
10	13.98	32.466	5.02	.52			.1	20	13.97	32.48	24.28	364.8	.174
20	13.97	32.479		.57			.1	30	11.35	32.47	24.77	310.6	.104
30	11.35	32.467	6.04	.57				50	9.18	32.54	25.19	280.1	.168
40	10.22	32.50	6.86	.53			.1	75	8.57	32.56	25.30	270.0	.237
50	9.18	32.531	7.07	.56			.1	100	7.69	32.59	25.45	255.4	.302
75	8.57	32.552	6.31	.76			3.6	150	7.85	33.02	26.24	189.1	.412
100	7.68	32.582	6.46	.91			.1	200	7.42	33.88	26.51	157.2	.497
125	7.77	33.182	5.37	1.30			13.6						
150	7.85	33.613		1.49			17.7						
175	7.64	33.830		.45			0.7						
200	7.42	33.881	4.47	1.75			22.1						

CN	ZTS	43	19.5 N	129	26.0 W	DATE	30 JUN 69	0210 GCT	WIRE	10	DRY	54.8	WET	55.1	CRUISE	C690AF	
		WIND DIRECTION		30	VEL	07 KTS	BAR		25	SWELL DIRECTION		21 M	03 T	OR CLOUD	A AMT	A WEATHER	03
0	14.52	32.501	6.07	.54		.2		0	14.52	32.51	24.18	375.7					
5	14.45	32.496	6.06	.55		.1		10	14.24	32.50	24.24	370.4					
10	14.74	32.498	6.11	.53		.1		20	14.21	32.50	24.24	370.2					
20	14.71	32.49A	6.13	.52		.1		30	11.38	32.47	24.77	370.3					
30	11.37	32.46A	6.76	.55		.1		50	9.51	32.50	25.11	247.0					
40	10.86	32.48H	6.85	.54		.1		75	8.47	32.56	25.32	248.4					
50	9.51	32.496	7.15	.57		.1		100	7.64	32.58	25.45	255.5					
75	8.47	32.555	6.70	.75		3.9		150	7.55	33.31	26.04	200.3					
100	7.63	32.576	6.44	.87		5.5		200	7.42	33.82	26.46	162.0					
125	7.29	32.49R	5.85	1.15		10.8											
150	7.54	33.309	4.96	1.52		17.1											
175	7.55	33.623	4.25	1.67		20.6											
200	7.42	33.817	4.20	1.77		22.3											

CBM235	47 39.5 N	129 26.0 W	DATE 30 JUN 69	0913 GCT	WIRE 00	DRY 57.2	DET 54.5	CRUISE C6906F			
WIND DIRECTION 30	VEL 05 KTS	RAIR 24	SWELL DIRECTION 31	M 04	T 08	CLCUD 6	AMT 7	WEATHER 02			
0	14.37	32.505	5.95	.35		.1	0	14.38	32.51	24.21	372.4
5	14.36	32.499	5.89	.45		.1	10	14.17	32.50	24.25	349.4
10	14.17	32.492	5.98	.48		.1	20	14.13	32.50	24.26	368.9
20	14.12	32.492	5.96	.50		.1	30	11.54	32.50	24.76	321.1
30	11.54	32.493	4.54	.53		.1	50	10.02	32.60	25.10	289.6
40	10.88	32.592	4.75	.53		.1	75	8.69	32.56	25.29	271.4
50	10.02	32.594	4.79	.54		.1	100	7.91	32.56	25.40	260.7
75	8.69	32.559	4.50	.79		3.4	150	8.52	33.45	26.01	204.2
100	7.90	32.555	4.47	.85		5.5	200	7.54	33.81	26.43	184.0
125	7.55	32.660	4.20	1.02		9.1					
150	8.52	33.445	4.21	1.18		14.0					
175	7.92	33.628	4.59	1.57		21.0					
200	7.54	33.812	3.90	1.84		25.5					

BM 245	42 00.0 N	129 27.0 W	DATE 30 JUN 69	1520 GCT	WIRE 01	DRY 57.5	WET 55.0	CRUISE C6904F		
WIND DIRECTION 31	VEL 05 KTS	BAR 23	SWELL DIRECTION 30	M 03	T 09	CLCUD	A AMT	A WEATHER 02		
0	14.45	32.656	4.02	.49	.1	0	14.45	32.66	24.31	342.9
5	14.45	32.655	4.94	.47	.1	10	14.44	32.66	24.32	363.0
10	14.44	32.654	5.97	.45	.1	20	14.46	32.66	24.31	343.7
20	14.46	32.654	5.98	.45	.1	30	14.42	32.66	24.32	343.3
30	14.42	32.652	4.01	.45	.1	50	10.17	32.54	25.03	245.4
40	11.39	32.501	4.63	.50	.1	75	8.73	32.56	25.28	272.2
50	10.17	32.532	4.90	.48	.1	100	7.79	32.58	25.44	257.4
75	8.73	32.554	4.53	.65	2.3	150	8.26	31.68	26.23	183.1
100	7.78	32.577	4.41	.84	5.7	200	7.87	31.93	26.48	159.8
124	7.64	33.047	5.41	1.28	14.2					
150	4.26	33.479	4.99	1.30	16.2					
175	4.15	33.889	4.80	1.42	18.9					
200	7.87	33.932	4.65		19.0					

BN 224	41 59.3 N	128 59.7 W	DATE 30 JUN 69	1942 ACT	WIRE 03	DRY 41.2	WET 58.9	CRUISE C6904F		
WIND DIRECTION 00	VEL 04 KTS	BAR 27	SWELL DIRECTION 31 M	04 T 08	CLCUD 4 AMT	8	WEATHER			
0	14.63	32.688	4.79	.50	.1	0	14.63	32.69	24.10	364.2
5	14.55	32.683	4.87	.45	.1	10	14.50	32.69	24.12	362.3
10	14.50	32.681	4.62	.45	.1	20	14.45	32.68	24.13	361.4
20	14.45	32.676	4.11	.43	.1	30	13.72	32.65	24.44	362.1
30	13.72	32.645	4.87	.43	.1	50	9.90	32.60	25.12	284.7
40	11.05	32.605	4.84	.56	.1	75	9.46	32.74	25.30	269.7
50	9.90	32.494	4.17	.61	1.1	100	8.95	31.28	25.82	220.9
75	9.46	32.717	4.75	.87	5.5	150	8.14	31.74	26.29	177.4
100	8.85	33.276	3.63	1.47	16.0	200	7.13	31.93	26.56	152.1
125	8.14	33.547	3.01	1.78	21.1					
150	8.14	33.712	3.09	2.00	24.4					
175	7.69	33.867	2.77	2.10	26.0					
200	7.13	33.931	2.00	2.76	28.1					

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	σ_θ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(σ_{θ})	(dyn.m)
BM 202 42 00.0 N 128 31.5 W DATE 30 JUN 69 2227 SCT WIRE 04 DRY 61.5 WET 59.8 CRUISE C6904F WIND DIRECTION 35 VEL 05 KTS BAR 22 SWELL DIRECTION 31 H 04 T 08 CLUD 6 AMT 6 WEATHER 01													
0	14.91	32.718	5.98	.31			.1	0	14.91	32.72	24.26	367.7	0
5	14.82	32.718	5.96	.28			.1	10	14.66	32.72	24.31	367.1	.037
10	14.66	32.715	6.00	.30			.1	20	14.68	32.72	24.31	367.1	.073
20	14.66	32.715	6.01	.35			.1	30	14.68	32.72	24.31	368.2	.109
30	14.68	32.715	6.01	.47			.1	50	12.11	32.76	24.46	317.2	.177
40	14.38	32.736	6.03	.34			.1	75	9.86	33.15	25.66	248.4	.247
50	12.11	32.758	6.52	.45			.1	100	8.78	33.59	26.78	198.4	.302
75	9.86	33.144	4.81	1.19		12.8		150	7.97	33.93	26.47	160.7	.401
100	8.78	33.590	3.58	1.75		22.9		200	7.09	34.02	26.67	147.2	.447
125	8.45	33.768	3.07	1.92		25.0							
150	7.97	33.910	2.60	2.15		28.5							
175	7.56	33.949	2.37	2.24		30.4							
200	7.09	34.025	2.19	2.48		32.4							
BM 181 42 00.0 N 128 05.0 W DATE 01 JUL 69 0206 SCT WIRE 06 DRY 59.9 WET 57.4 CRUISE C6904F WIND DIRECTION 34 VEL 05 KTS BAR 21 SWELL DIRECTION 29 H 04 T 08 CLUD 8 AMT 6 WEATHER 01													
0	14.67	32.625	5.93	.51			.1	0	14.67	32.63	24.24	369.4	0
5	14.69	32.626	5.93	.53			.1	10	14.61	32.62	24.25	369.2	.037
10	14.61	32.619	5.96	.51			.1	20	14.49	32.62	24.28	368.2	.074
20	14.49	32.619	5.13	.52			.1	30	14.49	32.63	24.28	368.2	.110
30	14.49	32.625	5.93	.54			.1	50	12.64	32.82	24.48	329.3	.180
40	13.97	32.663	6.10	.54			.1	75	10.25	32.84	25.25	273.2	.255
50	12.66	32.659	6.30	.54			.1	100	8.85	33.09	25.47	234.2	.319
75	10.25	32.850	5.74	.96		6.7		150	8.17	33.82	26.35	171.2	.421
100	8.85	33.085	5.15	1.29		12.4		200	7.44	33.95	26.56	152.2	.502
125	8.60	33.613	3.70	1.83		21.8							
150	8.17	33.813	3.26	2.01		24.7							
175	7.73	33.901	3.11	2.17		26.9							
200	7.44	33.954	2.82	2.27		28.8							
BM 160 42 00.8 N 127 37.9 W DATE 01 JUL 69 0550 SCT WIRE 07 DRY 57.2 WET 55.0 CRUISE C6904F WIND DIRECTION 01 VEL 10 KTS BAR 20 SWELL DIRECTION 32 H 04 T 07 CLUD 6 AMT 8 WEATHER 02													
0	14.46	32.657	6.24	.44			.2	0	14.46	32.66	24.31	363.1	0
5	14.47	32.655	6.50	.46			.2	10	14.47	32.66	24.31	363.4	.036
10	14.47	32.655	6.12	.45			.1	20	14.49	32.66	24.31	364.1	.073
20	14.49	32.657	6.18				.1	30	14.49	32.66	24.31	364.2	.109
30	14.49	32.657	6.19	.46			.1	50	12.65	32.67	24.64	332.4	.174
40	13.88	32.684	6.25	.48			.1	75	10.04	33.13	25.55	244.2	.251
50	12.85	32.662	6.53	.52			.1	100	8.74	33.59	24.08	196.3	.306
75	10.04	33.178	5.00	1.27		14.5		150	7.58	33.92	26.51	156.2	.394
100	8.74	33.589	3.99	1.60		20.6		200	7.28	33.99	26.61	147.2	.470
125	7.88	33.790	3.76	1.80		23.9							
150	7.59	33.910	3.23	1.79		23.9							
175	7.38	33.954	2.90	1.83		24.2							
200	7.28	33.987	2.56	2.11		28.3							
BM 139 42 00.7 N 127 11.2 W DATE 01 JUL 69 1115 SCT WIRE 05 DRY 57.5 WET 55.2 CRUISE C6904F WIND DIRECTION 33 VEL 10 KTS BAR 19 SWELL DIRECTION 31 H 04 T 08 CLUD 6 AMT 8 WEATHER 02													
0	14.32	32.676	6.10	.44			.1	0	14.32	32.69	24.36	358.2	0
5	14.34	32.677	6.12	.44			.1	10	14.33	32.65	24.33	361.4	.036
10	14.33	32.664	6.20	.45			.1	20	14.33	32.65	24.33	361.2	.072
20	14.33	32.653	6.08	.40			.1	30	14.11	32.67	24.39	356.6	.106
30	14.11	32.662	6.08	.43			.1	50	11.75	32.64	25.02	294.7	.173
40	12.65	32.720	6.61	.48			.1	75	9.68	33.14	25.60	242.4	.241
50	11.75	32.879	6.40	.67			.1	100	8.86	33.55	25.03	201.3	.296
75	9.68	33.157	5.05	1.36		14.7		150	8.21	33.87	26.38	164.8	.389
100	8.86	33.542	4.04	1.74		20.5		200	7.53	33.98	26.57	151.3	.469
125	8.39	33.785	3.42	1.99		24.9							
150	8.21	33.862	3.18	2.15		26.7							
175	7.86	33.919	2.91	2.23		28.4							
200	7.53	33.981	2.68	2.36		29.5							
BM 118 42 00.0 N 126 44.0 W DATE 01 JUL 69 1500 SCT WIRE 00 DRY 57.8 WET 54.2 CRUISE C6904F WIND DIRECTION 34 VEL 10 KTS BAR 19 SWELL DIRECTION 33 H 04 T 06 CLUD 8 AMT 8 WEATHER 02													
0	14.58	32.665		.12			.1	0	14.58	32.67	24.29	364.0	0
5	14.60	32.662	6.07	.12			.1	10	14.60	32.67	24.29	365.6	.037
10	14.60	32.664	6.10	.12			.1	20	14.61	32.67	24.28	366.2	.073
20	14.61	32.662	6.13	.15			.1	30	14.63	32.67	24.28	366.7	.110
30	14.62	32.661	6.04	.14			.1	50	11.06	32.66	24.97	301.0	.176
40	12.84	32.664	6.46	.15			.1	75	9.89	32.88	25.34	244.0	.247
50	11.06	32.659	6.88	.16			.1	100	9.40	33.20	25.44	214.4	.310
75	9.89	32.878	5.69	.17		3.8		150	9.36	33.75	26.10	194.2	.414
100	9.60	33.145	4.87	1.20		11.7		200	8.57	33.98	26.35	172.9	.511
125	9.50	33.514	4.07	1.60		18.7							
150	9.16	33.740	3.26	1.74		22.7							
175	8.77	33.822	3.13	1.76		25.1							
200	8.52	33.886	3.05	2.05		26.5							

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn.m)
BH 98 42 00.0 N 124 17.5 W DATE 01 JUL 69 1835 SCT WIRE 07 DRY 61.0 WET 57.5 CRUISE C690AF													
WIND DIRECTION 03 VEL 04 KTS HAW 19 SWELL DIRECTION 12 M 04 T 06 CLOUD 6 AMT 7 WEATHER 2													
0	15.16	32.280	5.86	.48			.1	0	15.16	32.28	23.87	404.0	0
5	15.17	32.294	5.96					10	15.11	32.30	23.84	403.1	.160
10	15.11	32.294	6.02					20	14.67	32.64	24.25	360.2	.179
20	14.67	32.638	6.07	.44			.1	30	14.33	32.65	24.33	361.7	.115
30	14.33	32.650	6.15	.44			.1	50	11.21	32.69	24.96	301.4	.142
40	12.39	32.640	6.57	.46			.1	75	10.01	32.83	25.28	272.1	.284
50	11.21	32.642	6.57	.56			.1	100	9.35	33.19	25.67	235.4	.117
75	10.01	32.821	5.86	.90			5.9	150	8.61	33.75	26.23	183.2	.422
100	9.35	33.182	4.97	1.33			12.9	200	8.00	33.94	26.47	161.3	.450H
125	8.77	33.591	4.09	1.77			20.3						
150	8.61	33.747	3.77	1.97			24.1						
175	8.29	33.846	3.34	2.12			25.9						
200	8.00	33.937	2.88	2.26			28.1						

BH 77 42 00.0 N 125 51.0 W DATE 01 JUL 69 2223 SCT WIRE 10 DRY 62.5 WET 58.5 CRUISE C690AF													
WIND DIRECTION 32 VEL 05 KTS RAR 20 SWELL DIRECTION 12 M 04 T 06 CLOUD 6 AMT 8 WEATHER 02													
0	14.49	31.627	.49				.1	0	14.49	31.63	23.51	439.4	0
5	14.21	31.613	.52				.1	10	14.06	31.62	23.59	431.9	.144
10	14.06	31.614	.45				.1	20	12.94	32.35	24.38	357.2	.063
20	12.94	32.342	.41				.1	30	11.54	32.55	24.80	317.5	.117
30	11.54	32.541	.46				.1	50	9.18	32.55	25.20	279.2	.176
40	9.64	32.532	.52				.1	75	8.95	32.89	25.50	250.9	.243
50	9.18	32.545	.68				2.1	100	8.78	33.44	25.98	204.3	.100
75	8.95	32.885	1.17				10.2	150	7.99	33.88	26.42	164.4	.102
100	8.78	33.458	1.58				17.3	200	7.25	33.99	26.61	146.9	.470
125	8.30	33.758	2.12				26.0						
150	7.99	33.879	2.27				27.4						
175	7.73	33.942	2.29				28.3						
200	7.25	33.988	2.46				30.4						

BH 56 42 00.0 N 126 24.0 W DATE 02 JUL 69 0142 SCT WIRE 03 DRY 60.2 WET 57.0 CRUISE C690AF													
WIND DIRECTION 32 VEL 04 KTS RAR 20 SWELL DIRECTION 15 M 03 T 06 CLOUD 8 AMT 8 WEATHER 02													
0	14.52	32.229	4.45	.48			.1	0	14.52	32.23	23.97	395.7	0
5	14.22	32.244	4.46	.49			.1	10	13.45	32.45	24.35	359.2	.138
10	13.45	32.443	6.63	.53			.1	20	10.08	32.83	25.27	272.0	.169
20	10.08	32.825	5.83	1.16			8.7	30	9.58	33.01	25.60	250.7	.105
30	9.58	33.008	5.18	1.38			13.0	50	8.80	33.46	25.97	205.7	.141
40	9.41	33.302	4.72	1.75			18.3	75	8.32	33.72	26.25	180.0	.184
50	8.80	33.459	3.98	1.92			22.0	100	7.82	33.87	26.44	162.4	.272
75	8.32	33.715	3.25	2.27			26.0	150	7.32	33.96	26.58	149.3	.110
100	7.81	33.860	3.08	2.34			27.9	200	6.85	33.99	26.67	141.6	.183
125	7.43	33.927	2.87	2.37			28.7						
150	7.31	33.953	2.72	2.41			29.6						
175	7.06	33.977	2.55	2.56			31.0						
200	6.85	33.987	2.38	2.59			32.1						

BH 45 42 00.4 N 125 10.6 W DATE 02 JUL 69 0333 SCT WIRE 00 DRY 60.1 WET 55.2 CRUISE C690AF													
WIND DIRECTION 32 VEL 04 KTS RAR 20 SWELL DIRECTION 14 M 03 T 06 CLOUD 4 AMT 8 WEATHER 02													
0	13.91	32.139	4.47	.46			.3	0	13.91	32.14	24.03	390.2	0
5	13.82	32.223	4.52	.45			.2	10	13.86	32.24	24.11	382.5	.039
10	13.86	32.233	6.64	.45			.2	20	9.98	32.58	25.02	289.0	.072
20	9.98	32.574	4.48	.74			4.0	30	8.96	32.72	25.36	263.2	.100
30	8.96	32.712	5.77	1.03			9.2	50	8.73	33.31	25.86	214.4	.148
40	8.79	33.002	4.72	1.32			14.5	75	8.56	33.68	26.18	186.4	.198
50	8.73	33.102	4.29	1.58			19.3	100	7.94	33.84	26.40	166.9	.242
75	8.56	33.675	3.54	1.95			25.0	150	7.44	33.93	26.54	153.3	.122
100	7.94	33.839	3.22	2.05			26.8	200	6.97	33.99	26.65	143.3	.196
125	7.72	33.875	3.24	2.06			26.8						
150	7.46	33.927	3.06	2.16			28.3						
175	7.26	33.952	2.89	2.23			29.2						
200	6.97	33.986	2.55	2.38			30.8						

BH 35 42 00.0 N 124 57.4 W DATE 02 JUL 69 0547 SCT WIRE 02 DRY 60.0 WET 55.3 CRUISE C690AF													
WIND DIRECTION 32 VEL 06 KTS RAR 20 SWELL DIRECTION 14 M 04 T 06 CLOUD 6 AMT 8 WEATHER 02													
0	14.52	31.871	4.16	.47			.1	0	14.52	31.83	23.86	425.4	0
5	14.55	31.816	4.16	.43			.1	10	14.49	31.85	23.84	423.4	.042
10	14.49	31.845	4.18	.47			.1	20	14.47	31.97	23.78	414.4	.084
20	14.47	31.944	4.15	.58			.1	30	10.55	32.53	24.94	301.4	.120
30	10.55	32.530	4.95	.55			.1	50	8.88	32.94	25.56	245.4	.175
40	9.64	32.721	4.10	1.02			7.2	75	8.63	33.32	25.89	214.3	.232
50	8.87	32.719	4.42	1.22			11.3	100	8.20	33.66	26.20	184.4	.282
75	8.62	33.113	4.53	1.55			17.5	150	7.77	33.90	26.47	160.0	.168
100	8.20	33.633	3.95	1.83			22.2	200	7.03	33.94	26.64	144.4	.444
125	8.01	33.745	3.54	1.87			24.0						
150	7.76	33.843	3.24	2.03			27.1						
175	7.24	33.941	2.84	2.22			29.3						
200	7.01	33.941	2.55	2.35			30.4						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\delta$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
BM 25 42 00.0 N 126 45.1 W DATE 07 JUL 69 0945 107 WIRE 00 DRY 54.9 WET 55.2 CRUISE CAGNAR													
WIND DIRECTION 31 VFL 04 KTS BAR 19 SWELL DIRECTION 14 M 03 T 06 CLOUD 6 ANT W WEATHER 02													
0	13.92	32.096	6.23	.49		.1		0	13.92	32.10	23.99	393.5	0
5	13.91	32.096	6.19	.47		.1		10	13.84	32.17	24.11	393.0	.039
10	13.84	32.169	6.27	.48		.1		20	10.81	32.35	24.41	315.7	.074
20	10.61	32.350	6.49	.52		.1		30	9.55	32.56	25.13	249.7	.104
30	9.55	32.535		.59		1.7		50	8.63	32.75	25.46	246.4	.154
40	8.89	32.593		.76		3.4		75	8.60	33.30	25.87	215.4	.217
50	8.63	32.743		1.08		10.2		100	8.32	33.64	26.19	186.0	.267
75	8.60	33.292		1.47		16.1		150	7.90	33.90	26.45	161.4	.354
100	8.32	33.640		1.81		21.9		200	7.03	33.98	26.64	146.2	.431
125	8.01	33.806		1.96		24.4							
150	7.89	33.894		2.10		26.7							
175	7.58	33.954		2.23		28.4							
200		33.985		2.26		28.4							

09	5	44	50.0	N	124	12.5	W	DATE	31	JUL	89	1450	TCY	WIRE	00	DRY	51.9	WET	40.9	CRUISE	Y6400A							
WIND				DIRECTION		03	VEL	10	KTS	BAR				13	SWELL		DIRECTION	32	M	04	T	07	CLCD	4	AMT	#	WEATHER	02
0	9.03	33.004	5.02			7.93	7.19	34.7						0	9.03	33.01	25.54	242.7										
3	8.89	33.035	4.67	2.37		7.89	2.21	20.7						10	7.67	32.99	25.77	224.1										
6	8.41	33.016	4.83	2.25		7.93	2.21	19.3						20	7.74	33.29	25.99	203.4										
10	7.66	32.997	4.83	2.04		7.97	2.19	17.2						30	7.82	33.40	26.07	194.2										
15	7.67	33.210	4.50	2.19		7.90	2.26	19.6						50	7.80	33.75	26.35	170.0										
20	7.74	33.260	4.33	2.25		7.90	2.25	23.4						75	7.22	33.92	26.57	149.7										
30	7.82	33.394	3.88	2.34		7.85	2.25	22.9																				
40	7.80	33.592	3.10	2.63		7.85	2.25	25.5																				
50	7.79	33.744	3.00	2.75		7.79	2.25	27.2																				
62	7.47	33.863	2.28	2.92		7.71	2.26	30.3																				
75	7.22	33.917	2.35	2.91		7.72	2.26	31.9																				

08 15	44 54.2 N	124 23.7 W	DATE 31 JUL 69	1919 ACT	WIRE 00	DRY 58.0	WET 51.9	CRUISE YAGORA				
WIND DIRECTION 02	VEL 04 KTS	BAR 23	SWELL DIRECTION 32	M 04	T 07	CLOUD 6 AMT	A WEATHER 07					
0	12.07	32.326	8.29	.90	8.28	2.25	1.0	0	12.07	32.33	24.53	342.1
10	11.38	32.448	7.04	1.16	8.17	2.25	4.9	10	11.38	32.45	24.75	321.3
20	11.08	32.485	6.65	1.89	8.15	2.23	9.0	20	11.08	32.49	24.83	311.9
30	8.45	32.462	6.65	1.19	8.18	2.19	4.7	30	8.45	32.47	25.25	274.4
40	7.60	32.565	6.15		8.13	2.21	11.2	50	7.87	33.01	25.76	225.4
50	7.81	33.003	5.02	1.85	8.02	2.23	16.7	75	7.85	33.74	26.33	172.2
62	7.95	33.518	3.80	2.35	7.93	2.25	22.2	100	7.60	33.86	26.46	160.1
75	7.85	33.731	3.34	2.71	7.87	2.25	25.2	150	6.93	33.97	26.65	143.1
100	7.60	33.852	2.92	2.62			27.1					
150	6.93	33.972	1.97		7.72	2.33						

[illegible][illegible]

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn)
A 17 45 10.3 N 124 22.5 W DATE 01 AUG 69 0400 GCT WIRE 00 DRY 40.3 WET 58.4 CRUISE YAG004A													
WIND DIRECTION 35 VEL 14 KTS BAR 24 SWELL DIRECTION 12 M 04 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	15.81	30.949	6.07	.38	8.27	2.15	.1	0	15.81	30.95	22.71	515.9	0
3	15.77	30.950	6.08	.43	8.27	2.14	.1	10	15.81	31.00	22.74	514.7	.041
6	15.74	30.964	6.08	.42	8.28	2.14	.1	20	15.03	32.27	27.84	424.0	.067
10	15.61	30.949	6.09	.42	8.28	2.14	.1	30	11.61	32.45	24.73	324.0	.133
20	15.03	32.262	6.22	.58	8.21	2.17	.1	50	9.29	32.53	25.17	242.2	.164
30	11.51	32.444	7.00	.66	8.22	2.17	.1	75	8.12	32.44	25.31	242.3	.263
40	9.46	32.454	7.16	.69	8.23	2.19	.1	100	7.93	32.78	25.57	244.4	.327
50	9.29	32.527	7.22	.83	8.22	2.19	2.2	150	7.77	33.72	26.33	173.2	.431
62	8.86	32.502	6.95	.88	8.20	2.19	2.3	200	7.29	33.90	26.54	153.7	.413
75	8.12	32.475	6.71	.98	8.18	2.17	4.8						
100	7.92	32.772	6.68	1.34	8.09	2.19	12.2						
125	7.65	33.340	4.67		8.00	2.23							
150	7.76	33.715	4.15	1.86	7.96	2.25	28.4						
200	7.29	33.905	3.41	2.20	7.88	2.26	26.6						

C 24 45 16.0 N 124 43.0 W DATE 01 AUG 69 1423 GCT WIRE 00 DRY 61.3 WET 56.8 CRUISE YAG004A													
WIND DIRECTION 00 VEL 13 KTS BAR 24 SWELL DIRECTION 12 M 04 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	16.68	31.272	5.78	.47	8.23	2.11	.2	0	16.69	31.28	22.76	510.9	0
3	16.69	31.280	5.78	.48	8.24	2.14	.1	10	16.45	31.97	23.35	455.5	.048
6	16.60	31.724	5.83	.52	8.23	2.15	.1	20	15.69	32.30	23.77	415.3	.092
10	16.45	31.965	5.84	.53	8.22	2.17	.1	30	11.76	32.50	24.72	324.1	.129
20	15.69	32.294	5.99	.59	8.20	2.17	.1	50	8.95	32.47	25.17	241.8	.193
30	11.76	32.491	6.93	.64	8.22	2.17	.1	75	8.07	32.50	25.33	247.1	.255
40	9.94	32.477	7.16	.71	8.24	2.17	.1	100	7.94	32.68	25.49	252.5	.323
50	8.95	32.464	7.14	.70	8.24	2.17	.1	150	7.64	33.55	26.21	184.4	.432
62	8.50	32.472	6.80	.84	8.21	2.17	1.8	200	7.40	33.88	26.51	154.7	.414
75	8.07	32.496	7.14	.96	8.18	2.17	4.6						
100	7.94	32.672	6.01	1.20	8.14	2.19	8.7						
125	7.13	33.359	4.54	1.73	8.00	2.21	20.0						
150	7.67	33.545	4.48	1.77	8.00	2.23	21.3						
200	7.40	33.885	3.66	2.14	7.91	2.28	26.3						

C 27 45 23.8 N 124 08.1 W DATE 01 AUG 69 1838 GCT WIRE 00 DRY 61.9 WET 57.5 CRUISE YAG004A													
WIND DIRECTION 32 VEL 08 KTS BAR 24 SWELL DIRECTION 12 M 04 T 07 CLOUD 6 AMT 6 WEATHER 01													
0	16.62	32.178	5.78	.60	8.19	2.21	.1	0	16.63	32.18	23.47	443.4	0
3	16.56	32.179	5.78	.60	8.19	2.21	.1	10	16.50	32.19	23.50	443.4	.044
6	16.50	32.180	5.79	.59	8.19	2.21	.1	20	16.35	32.18	23.53	438.2	.084
10	16.49	32.181	5.79	.56	8.19	2.19	.1	30	11.78	32.55	24.75	321.4	.124
20	16.35	32.174	5.78	.56	8.19	2.21	.1	50	10.14	32.65	25.12	244.5	.187
30	11.78	32.543	7.22	.64	8.23	2.21	.1	75	9.58	32.70	25.25	244.4	.257
40	10.71	32.631	7.46	.72	8.23	2.21	.1	100	9.30	32.92	25.47	246.4	.323
50	10.14	32.649	7.47		8.24	2.21	.1	150	9.15	33.63	26.05	200.1	.437
62	9.74	32.672	6.62	.90	8.19	2.21	3.1	200	8.39	33.87	26.36	171.7	.430
75	9.58	32.696	6.41	1.01	8.15	2.21	5.8						
100	9.30	32.913	5.54	1.30	8.06	2.23	11.1						
150	9.15	33.630	3.47	1.99	7.90	2.25	24.0						
200	8.39	33.874	2.87	2.20	7.84	2.26	28.5						

C 31 45 31.0 N 126 33.2 W DATE 01 AUG 69 2202 GCT WIRE 00 DRY 62.0 WET 56.2 CRUISE YAG004A													
WIND DIRECTION 32 VEL 08 KTS BAR 24 SWELL DIRECTION 12 M 04 T 07 CLOUD 6 AMT 2 WEATHER 01													
0	16.85	32.020	5.80	.48	8.22	2.19	.1	0	16.85	32.02	23.70	450.0	0
3	16.74	32.019	5.80	.51	8.22	2.19	.1	10	16.59	32.00	23.73	456.4	.044
6	16.65	32.003	5.81	.54	8.22	2.17	.1	20	15.77	32.16	23.64	427.4	.094
10	16.59	31.992	5.82	.53	8.22	2.17	.1	30	11.59	32.53	24.78	319.4	.127
20	15.77	32.153	6.01	.58	8.21	2.21	.1	50	10.01	32.67	25.15	243.4	.186
30	11.59	32.528	7.21	.75	8.24	2.21	.1	75	9.54	32.70	25.26	271.4	.257
40	10.35	32.649	7.47	.71	8.25	2.21	.1	100	9.25	32.87	25.44	257.4	.324
50	10.01	32.660	7.38	.76	8.25	2.21	1.9	150	8.97	33.68	26.11	134.1	.437
62	9.74	32.685	6.51	.96	8.19	2.21	5.4	200	8.27	33.88	26.38	149.4	.427
75	9.54	32.697	6.23	1.05	8.13	2.21	10.6						
100	9.25	32.862	5.66	1.31	8.10	2.23	23.8						
150	8.97	33.673	3.34	2.12	7.90	2.26	26.1						
200	8.27	33.881	2.91	2.40	7.84	2.26	28.4						

C 35 45 42.0 N 124 59.5 W DATE 02 AUG 69 0138 GCT WIRE 07 DRY 61.1 WET 57.0 CRUISE YAG004A													
WIND DIRECTION 33 VEL 11 KTS BAR 23 SWELL DIRECTION 13 M 04 T 07 CLOUD 6 AMT 4 WEATHER 01													
0	17.02	31.553	5.77	.47	8.23	2.15	.1	0	17.02	31.56	22.90	497.4	0
3	17.02	31.545	5.76	.50	8.23	2.15	.1	10	16.85	31.81	23.13	476.2	.044
6	16.87	31.601	5.84	.51	8.23	2.15	.1	20	16.44	32.34	23.43	428.4	.094
10	16.85	31.402	5.79	.50	8.23	2.15	.1	30	15.34	32.39	23.91	412.4	.135
20	16.44	32.335	6.82	.54	8.19	2.17	.1	50	10.72	32.64	24.84	314.2	.207
30	15.37	32.380	6.09	.62	8.21	2.17	.1	75	8.99	32.52	24.70	274.2	.280
40	12.89	32.455	6.73	.68	8.23	2.17	.1	100	8.70	32.82	25.44	257.4	.347
50	10.72	32.477	7.04	.71	8.24	2.17	.1	150	8.17	33.54	26.13	142.7	.458
62	10.38	32.516	7.07	.71	8.24	2.17	.2	200	7.23	33.96	26.60	148.7	.443
75	8.99	32.512	6.89	.79	8.22	2.17	.4						
100	8.70	32.412	5.84	1.25	8.12	2.23	10.4						
150	8.17	33.532	3.81	1.47	7.95	2.33	24.1						
200	7.23	33.941	3.43	2.38	7.82	2.26	33.4						

OBSERVED

INTERPOLATED

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D	T	S	O ₂	PO ₄	pH	ALK	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/cm)
C 39 45 45.1 N 127 25.0 W [1E 02 AUG 69 0450 SCT WIRE 00 DRY 61.5 WET 56.0 CRUISE YAGORA WIND DIRECTION 12 VEL 04 KTS BAR 22 SWELL DIRECTION 12 M 03 T 07 CLOUD 4 AMT A WEATHER 02													
0	16.48	32.209	5.80	.57	8.20	2.17	.2	0	16.48	32.21	23.52	438.1	0
3	16.47	32.208	5.79	.55	8.20	2.17	.1	10	16.29	32.23	23.58	437.3	.144
6	16.37	32.214	5.82	.55	8.20	2.19	.1	20	16.21	32.26	23.62	429.4	.147
10	16.29	32.222	5.84	.56	8.21	2.17	.1	30	15.68	32.48	23.91	402.0	.128
20	16.21	32.235	5.83	.56	8.21	2.17	.1	50	10.76	32.46	24.95	302.4	.199
30	15.48	32.478	6.00	.66	8.20	2.19	.1	75	8.31	32.48	25.28	272.2	.271
40	11.71	32.457	7.13	.72	8.25	2.17		100	7.57	32.79	25.63	239.2	.334
50	10.26	32.457	7.30	.70	8.25	2.17	.3	150	7.58	32.31	26.03	201.5	.445
62	4.93	32.460	7.21	.77	8.24	2.17	.5	200	7.12	32.88	26.54	153.6	.533
75	8.31	32.473	6.65	.83	8.19	2.19	3.6						
100	7.57	32.783	5.68	1.33	8.10	2.21	12.0						
150	7.58	33.301	4.71	1.70	8.03	2.23	19.2						
200	7.12	33.875	3.31	2.23	7.88	2.26	29.2						

A 46 46 00.0 N 127 00.0 W DATE 02 AUG 69 1339 SCT WIRE 00 DRY 60.1 WET 56.0 CRUISE YAGORA WIND DIRECTION 32 VEL 04 KTS BAR 22 SWELL DIRECTION 10 M 02 T 07 CLOUD 3 AMT A WEATHER 02													
0	16.32	32.282	5.70	.46	8.20	2.21	.1	0	16.32	32.29	23.62	429.3	0
3	16.32	32.282	5.78	.45	8.20	2.21	.1	10	16.35	32.28	23.61	430.4	.143
6	16.33	32.280	5.79	.50	8.19	2.21	.1	20	16.32	32.29	23.62	429.9	.186
10	16.35	32.280	5.77	.44	8.20	2.21	.1	30	16.00	32.38	23.76	416.2	.124
20	16.32	32.281	5.79	.46	8.20	2.21	.1	50	10.77	32.46	24.87	311.1	.201
30	16.00	32.378	5.88	.48	8.19	2.21	.1	75	8.54	32.50	25.26	273.9	.274
40	13.41	32.457	6.52	.53	8.21	2.21	.1	100	7.71	32.57	25.43	257.5	.341
50	10.77	32.455	6.97	.54	8.24	2.21	.1	150	7.55	32.80	26.27	178.9	.450
62	9.12	32.487	7.11	.58	8.24	2.21	.1	200	7.11	33.86	26.53	154.6	.533
75	8.54	32.494	6.69	.70	8.20	2.21	1.2						
100	7.71	32.562	6.33	.95	8.16	2.21	5.1						
150	7.54	33.597	4.14	1.81	7.96	2.26	23.6						
200	7.11	33.860	3.43	2.12	7.89	2.28	27.1						

C 50 45 56.4 N 124 30.4 W DATE 02 AUG 69 1838 SCT WIRE 00 DRY 60.1 WET 46.0 CRUISE Y690RA WIND DIRECTION 31 VEL 10 KTS BAR 22 SWELL DIRECTION 32 M 02 T 06 CLOUD 6 AMT A WEATHER 02													
0	16.32	32.144	5.78	.49	8.20	2.19	.1	0	16.32	32.19	23.54	436.5	0
3	16.32	32.143	5.83	.51	8.20	2.21	.1	10	16.32	32.19	23.54	436.9	.144
6	16.31	32.181	5.86	.52	8.19	2.19	.1	20	16.23	32.19	23.56	436.9	.187
10	16.32	32.181	5.79	.54	8.19	2.19	.1	30	12.70	32.43	24.49	347.0	.126
20	16.23	32.185	5.85	.56	8.20	2.19	.1	50	10.24	32.60	25.07	291.8	.190
30	12.70	32.423	6.81	.53	8.23	2.19	.1	75	8.68	32.55	25.28	272.1	.261
40	11.03	32.541	7.23	.53	8.24	2.21	.1	100	8.39	32.81	25.52	249.7	.326
50	10.24	32.599	7.39	.50	8.24	2.21	.1	150	8.44	32.74	26.24	181.7	.434
62	9.04	32.519	6.99	.60	8.22	2.21	.7	200	7.71	33.82	26.50	158.3	.519
75	8.68	32.546	6.52	.71	8.18	2.21	4.4						
100	8.39	32.801	5.78	1.15	8.11	2.23	10.8						
150	8.44	33.733	3.35	2.26	7.90								
200	7.71	33.922	2.86										

C 54 45 52.8 N 124 00.0 W DATE 02 AUG 69 2143 SCT WIRE 00 DRY 60.5 WET 55.8 CRUISE Y690RA WIND DIRECTION 33 VEL 04 KTS BAR 23 SWELL DIRECTION 32 M 02 T 06 CLOUD 6 AMT A WEATHER 02													
0	16.04	31.903	5.93	.39	8.24	2.19	.1	0	16.04	31.91	23.39	451.0	0
3	16.01	31.902	5.92	.44	8.24	2.19	.1	10	15.98	31.92	23.41	449.4	.145
6	15.96	31.904	5.93	.41	8.24	2.19	.1	20	15.38	32.32	23.63	428.9	.189
10	15.98	31.910	5.94	.50	8.24	2.19	.1	30	12.50	32.46	24.55	340.9	.127
20	16.38	32.312	5.80	.47	8.20	2.24	.1	50	8.88	32.47	25.19	280.2	.190
30	12.50	32.454	6.76	.51	8.22	2.24	.1	75	7.42	32.53	25.39	260.9	.257
40	10.52	32.490	7.25	.53	8.24	2.24	.1	100	7.48	32.80	25.81	222.1	.318
50	8.87	32.469	7.27	.58	8.24	2.24	.1	150	7.59	32.96	26.54	153.0	.411
62	8.28	32.491	6.70	.73	8.19	2.24	3.3	200	7.22	32.94	26.58	150.4	.447
75	7.81	32.530	6.37	.90	8.15	2.24	6.9						
100	7.48	32.996	5.36	1.32	8.06	2.26	14.7						
150	7.59	33.956	3.90	1.81	7.94	2.28	24.4						
200	7.22	33.936	2.76	2.32	7.81	2.30	30.9						

C 58 45 45.0 N 125 33.9 W DATE 03 AUG 69 0052 SCT WIRE 00 DRY 60.5 WET 56.6 CRUISE Y690RA WIND DIRECTION 32 VEL 04 KTS BAR 22 SWELL DIRECTION 32 M 02 T 06 CLOUD 6 AMT A WEATHER 01													
0	17.42	30.544	5.77	.29	8.25	2.17	.1	0	17.42	30.57	22.05	579.0	0
3	17.02	31.123	5.81	.35	8.25	2.19	.1	10	16.04	31.92	23.59	451.1	.152
6	16.44	31.529	5.86	.37	8.24	2.19	.1	20	15.72	31.96	23.50	440.9	.196
10	16.06	31.910	5.99	.41	8.25	2.21	.1	30	11.15	32.29	24.63	333.4	.135
20	15.72	31.955	6.03	.40	8.26	2.21	.1	50	8.23	32.51	25.31	268.5	.195
30	11.15	32.281	7.02	.54	8.24	2.23	.1	75	7.98	32.80	25.58	243.4	.269
40	9.10	32.449	7.00	.68	8.21	2.23	1.4	100	7.98	32.34	26.00	207.8	.315
50	8.23	32.503	6.51	.91	8.18	2.23	5.3	150	7.81	32.84	26.42	165.0	.407
62	7.45	32.555	6.27	.99	8.14	2.21	8.3	200	7.04	32.94	26.60	147.9	.485
75	7.98	32.708	5.60	1.27	8.08	2.23	12.4						
100	7.98	33.335	4.31	1.70	7.96	2.25	20.6						
150	7.90	33.813	3.24	2.07	7.87	2.28	27.6						
200	7.04	33.917	2.05	2.31	7.83	2.30	31.1						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	σ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/m)
A 62 48 37.4 N 124 06.4 W DATE 03 AUG 69 0415 GCT WIRE 00 DRY 61.0 WET 44.5 CRUISE Y6908A													
WIND DIRECTION 00 VEL 10 KTS BAR 1 SWELL DIRECTION 12 H 02 T 05 CLCUD 4 AMT 2 WEATHER 02													
0	16.99	30.317	5.92	.26	8.28	2.14	.1	0	17.00	30.34	21.98	594.0	0
3	17.03	30.313	5.45	.25	8.28	2.14	.1	10	16.41	30.49	22.13	571.4	.048
6	16.49	30.343	5.46	.25	8.28	2.14	.1	20	15.79	30.86	22.44	522.7	.113
10	16.41	30.404	5.46	.25	8.27	2.14	.1	30	12.47	32.37	24.49	346.8	.156
20	15.79	30.457	4.02	.28	8.26	2.15	.1	50	9.11	32.51	25.18	280.8	.219
30	12.47	32.368	4.75	.51	4.22	2.19	.1	75	7.77	32.54	25.41	259.7	.146
40	10.40		7.17	.57	8.23	2.21	.1	100	8.60	31.19	25.79	223.7	.147
50	9.11	32.510	4.91	.72	8.21	2.21	1.7	150	7.97	31.81	26.37	169.5	.145
62	8.21	32.481	4.67	.85	8.18	2.21	4.0	200	7.38	31.95	26.56	151.7	.125
75	7.77	32.538	4.27	1.03	8.15	2.21	4.3						
100	8.60	33.148	4.72	1.51	8.01	2.25	17.7						
150	7.97	33.406	3.25	2.01	7.48	2.28	27.2						
200	7.38	33.948	2.89	2.24	7.44	2.28	29.9						

A 68 45 53.7 N 124 28.8 W DATE 03 AUG 69 1302 GCT WIRE 03 DRY 57.1 WET 55.5 CRUISE Y6908A

WIND DIRECTION 34 VEL 02 KTS BAR 20 SWELL DIRECTION 12 H 02 T 05 CLCUD 6 AMT 2 WEATHER 02													
0	13.27	29.127	4.62	.52	8.32	2.17	.1	0	13.27	29.13	21.84	599.7	0
3	11.60	31.751	9.17	.41	8.40	2.23	.1	10	10.56	32.60	25.01	296.6	.145
6	11.41	32.321	4.56	.41	8.16	2.23	.1	20	9.64	32.66	25.21	277.7	.174
10	10.56	32.596	4.54	.89	8.19	2.25	6.8	30	7.49	32.62	25.60	250.0	.100
20	9.64	32.654	5.14	1.51	8.05	2.25	14.9	50	7.39	31.23	26.00	203.0	.145
30	7.49	32.612	5.70		8.08	2.21		75	7.52	33.82	26.44	181.3	.191
40	7.25	32.911	5.24	1.62	8.01	2.23	16.7	100	7.14	33.93	26.59	144.2	.229
50	7.38	33.226	4.24	1.93	7.94	2.25	21.9						
57	7.44	33.439	3.40	2.09	7.86	2.26	25.1						
75	7.51	33.814	2.85	2.20	7.82	2.28	28.3						
100	7.13	33.926	2.34	2.40	7.78	2.30	31.5						
125	6.40	33.972	1.86	2.60	7.72	2.30	33.1						

C 70 46 02.2 N 124 15.9 W DATE 03 AUG 69 1615 GCT WIRE 00 DRY 59.3 WET 55.0 CRUISE Y6908A

WIND DIRECTION 02 VEL 02 KTS BAR 21 SWELL DIRECTION 10 H 02 T 06 CLCUD 6 AMT 4 WEATHER 02													
0	13.28	28.973	4.73	.52	8.35	2.14	.1	0	13.28	28.98	21.71	611.2	0
3	12.38	32.244	4.17	.54	8.30	2.23	.2	10	10.89	32.51	24.88	309.0	.146
6	11.72	32.418	7.99	.54	8.30	2.23	.6	20	8.20	32.67	25.44	255.7	.174
10	10.89	32.502	7.32	.74	8.25	2.25	3.6	30	8.02	32.69	25.64	237.0	.199
20	8.20	32.664	4.16	1.97	7.92	2.23	21.2	50	7.40	33.37	26.11	142.6	.142
30	8.02	32.883	3.58	2.00	7.86	2.23		75	7.26	31.93	26.57	149.7	.145
40	7.55	33.027	4.54		7.96	2.25		100	6.80	31.98	26.67	140.0	.221
50	7.39	33.367	3.96		7.91	2.37	23.6						
62	7.48	33.787	2.35	2.35	7.76	2.36	31.2						
75	7.25	33.922	2.02	2.44	7.73	2.34	32.4						
100	6.79	33.975	1.71	2.60	7.70	2.34							

A 74 44 15.2 N 124 00.2 W DATE 03 AUG 69 1942 GCT WIRE 00 DRY 60.0 WET 57.3 CRUISE Y6908A

WIND DIRECTION 27 VEL 04 KTS BAR 21 SWELL DIRECTION 10 H 02 T 05 CLCUD 6 AMT 4 WEATHER 02													
0	18.57	4.509	5.67	.79	7.84	1.27	2.8	0	18.57	4.51	2.00	2537.0	0
3	18.45	4.702	5.64	.75	7.86		2.7	10	13.34	19.96	14.77	1240.7	.191
6	17.72	6.746	5.45	.78	7.83	1.27	4.0						
10	13.34	19.956	4.34	1.31	7.81	1.81	13.4						
15	11.68	26.363	4.09	1.73	7.84	2.01	18.8						

C 76 46 10.5 N 124 10.7 W DATE 03 AUG 69 2114 GCT WIRE 00 DRY 61.1 WET 56.4 CRUISE Y6908A

WIND DIRECTION 27 VEL 04 KTS BAR 21 SWELL DIRECTION 10 H 03 T 10 CLCUD 6 AMT 4 WEATHER 02													
0	13.71	27.041	5.91	1.40	8.05	2.03	11.5	0	13.71	27.05	20.15	741.7	0
3	12.21	29.724	4.74	1.36	8.18	2.21	8.1	10	10.88	32.48	24.86	310.9	.154
6	11.75	32.003	4.20	.92	8.32	2.21	2.4	20	8.10	33.53	25.13	189.9	.179
10	10.88	32.473	4.83	1.21	8.15	2.14	7.0	30	7.56	33.86	24.47	159.3	.196
20	8.10	33.529	2.34	2.19	7.74	2.25	15.9	50	7.29	33.92	24.56	151.0	.127
30	7.55	33.854	2.02	2.10	7.75	2.26	16.1						
40	7.33	33.907	1.66	2.86	7.69	2.26	35.9						
50	7.28	33.919	1.46	2.88	7.67	2.26	26.5						

C 77 44 10.6 N 124 19.2 W DATE 03 AUG 69 2321 GCT WIRE 00 DRY 61.6 WET 57.3 CRUISE Y6908A

WIND DIRECTION 27 VEL 04 KTS BAR 21 SWELL DIRECTION 10 H 02 T 10 CLCUD 6 AMT 3 WEATHER 01													
0	12.52	26.984	4.98	1.34	8.16	2.05	10.0	0	12.52	26.99	20.32	744.6	0
3	12.24	31.770	4.72	.63	8.39	2.19	1.2	10	11.85	32.60	24.78	318.4	.153
6	12.02	32.162	4.70	.54	8.38	2.21	.4	20	10.26	32.75	25.18	241.0	.183
10	11.85	32.597	4.54	.53	8.17	2.23	.4	30	8.79	32.95	25.57	242.3	.109
20	10.26	32.743	4.82	1.20	8.22	2.23		50	7.57	33.51	24.70	184.4	.152
30	8.79	32.947	4.63	1.49	8.00	2.23	15.4	75	7.05	33.92	24.99	147.1	.194
40	8.26	33.103	1.70	2.16	7.90	2.23	14.4	100	6.70	33.97	24.68	139.3	.229
50	7.56	33.408	2.81	2.51	7.79	2.23	24.3						
62	7.43	33.409	1.63	2.88	7.68	2.26	29.1						
75	7.04	33.420	1.98	2.85	7.74	2.26	29.7						
100	6.70	33.969	1.96	2.85	7.72	2.28	29.1						

OBSERVED

INTERPOLATED

DERIVED

D	T	σ	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	σ	δ	ΔD
(m)	(°C)	(kg)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(kg)	(10 ⁻³)	(dyn/m)
C 79 44 10.4 N 124 35.4 W DATE 04 AUG 69 01 1 ACT WIRE 00 DRY 59.9 WET 57.3 CRUISE Y6908A WIND DIRECTION 124 VEL 04 KTS BAR 20 SWELL DIRECTION 28 H 02 T 06 CLOUD 4 AMT 6 WEATHER 02												
0	14.85	32.265	7.50	.41	8.29	2.23	.1	0	13.85	32.27	24.93	399.7 0
3	13.86	32.260	7.80	.34	8.12	2.21	.1	10	9.97	32.42	24.97	300.7 .035
6	13.17	32.279	7.76	.38	8.30	2.23	.1	20	8.02	32.48	25.12	264.9 .163
10	8.91	32.412	7.73	.75	8.19	2.21	1.1	30	7.85	32.49	25.36	244.0 .190
20	8.02	32.440	8.37	.96	8.14	2.19	5.5	50	7.73	32.50	25.49	232.8 .140
30	7.15	32.489	8.31	1.04	8.13	2.21	8.5	75	7.55	32.49	24.18	187.8 .192
40	7.46	32.555	8.09	1.17	8.11	2.21	9.8	100	7.60	32.74	26.37	168.6 .237
50	7.67	32.872		1.38	8.05	2.21	14.0					
62	7.78	33.297	4.41	1.63	7.98	2.23	20.2					
75	7.54	33.481	4.12	1.76	7.94	2.25	22.5					
100	7.60	33.717	3.58		7.90	2.26	26.6					
125	7.36	33.893	2.65		7.82	2.29	29.8					

A 81 46 10.6 N 124 50.0 W DATE 04 AUG 69 0345 ACT WIRE 00 DRY 60.9 WET 58.0 CRUISE Y6908A
WIND DIRECTION 31 VEL 10 KTS BAR 19 SWELL DIRECTION 30 H 02 T 06 CLOUD 8 AMT 5 WEATHER 02

0	13.13	32.214	4.37	.41	8.27	2.19	.1	0	13.13	32.22	24.83	409.1 0
3	13.16	32.214	5.57	.38	8.27	2.17	.1	10	13.50	32.27	24.21	373.1 .030
6	14.59	32.220	4.46	.39	8.28	2.19	.1	20	9.04	32.49	25.17	291.2 .172
10	13.50	32.267	4.70	.62	8.26	2.19	.1	30	8.10	32.49	25.32	267.8 .199
20	9.04	32.484	5.50	.66	8.22	2.19	1.3	50	7.49	32.54	25.45	255.7 .152
30	8.10	32.484	4.76	.87	8.19	2.19	4.6	75	7.52	32.59	25.79	222.8 .211
40	7.46	32.484	5.64	.91	8.18	2.19	5.5	100	7.95	33.53	26.15	159.3 .263
50	7.49	32.538	4.36	1.02	8.15	2.19	8.5	150	7.52	33.92	26.52	155.0 .149
62	7.39	32.772	4.72	1.23	8.10	2.19	12.8	200	6.81	33.95	26.65	143.5 .424
75	7.51	32.997	4.28	1.44	8.04	2.21	15.9					
100	7.95	33.524	2.90	1.77	7.94	2.25	23.2					
150	7.51	33.914	3.10	2.21	7.86	2.26	31.5					
200	6.81	33.954	2.76		7.83	2.28						

A 87 46 27.5 N 124 24.0 W DATE 04 AUG 69 1331 ACT WIRE 00 DRY 58.9 WET 56.0 CRUISE Y6908A
WIND DIRECTION 30 VEL 04 KTS BAR 18 SWELL DIRECTION 30 H 02 T 07 CLOUD 6 AMT 8 WEATHER 02

0	12.06	32.288	9.24	.1	.39	2.25	.1	0	12.06	32.29	24.50	344.8 0
3	11.27	32.309	9.09	.38	8.18	2.25	.1	10	10.15	32.42	24.94	302.9 .032
6	10.30	32.343	4.72	.78	8.15	2.25	.3	20	8.08	32.58	25.39	260.4 .161
10	10.15	32.420	4.25	1.14	8.12	2.23	9.9	30	7.07	32.70	25.63	238.2 .185
20	8.06	32.574	4.97	1.54	8.00	2.23	15.7	50	7.57	33.49	26.18	184.4 .128
30	7.07	32.696	5.53	1.47	8.06	2.23	14.5	75	7.29	33.89	26.54	152.6 .170
40	7.66	33.222	3.44	2.07	7.85	2.25	26.9					
50	7.56	33.481	3.58	2.05	7.88	2.25	25.2					
62	7.51	33.809	1.02	2.81	7.42	2.28	34.9					
75	7.28	33.885	.86	2.95	7.40	2.28	34.5					

C 89 46 19.0 N 124 17.7 W DATE 04 AUG 69 1634 ACT WIRE 00 DRY 59.0 WET 56.0 CRUISE Y6908A
WIND DIRECTION 19 VEL 04 KTS BAR 18 SWELL DIRECTION 29 H 02 T 05 CLOUD 8 AMT 7 WEATHER 02

0	13.16	27.460	7.21	.66	8.27	2.07	4.7	0	13.16	27.67	20.73	705.9 0
3	13.57	32.302	8.59		8.18	2.23	.1	10	9.99	31.07	25.47	252.8 .048
6	11.44	32.755	8.14	.39	8.32	2.23	.3	20	8.44	31.37	25.95	207.1 .171
10	9.99	33.045	5.61	1.02	8.05	2.26	9.4	30	7.65	31.61	25.26	178.0 .090
20	8.44	33.344	2.90	2.41			25.2	50	7.17	33.93	26.58	147.9 .123
30	7.64	33.605	1.93	2.56	7.72	2.24	31.5					
40	7.41	33.868	1.71	2.67	7.65	2.28	33.5					
50	7.16	33.926	1.49	2.82	7.48	2.30	33.3					
62	7.14	33.937	1.39	2.87	7.67	2.28	33.3					

C 91 44 10.8 N 124 11.2 W DATE 04 AUG 69 1835 ACT WIRE 00 DRY 59.0 WET 56.6 CRUISE Y6908A
WIND DIRECTION 20 VEL 10 KTS BAR 19 SWELL DIRECTION 29 H 02 T 05 CLOUD 8 AMT 4 WEATHER 02

0	12.46	26.258	5.76	1.25	8.08	2.03	11.8	0	12.46	26.26	19.78	797.3 0
3	11.46	30.314	5.84	1.22	8.10	2.21	11.8	10	9.25	31.02	25.55	245.0 .052
6	9.79	32.652	4.57	1.62	7.99	2.25	17.6	20	7.94	31.53	26.15	188.2 .074
10	9.25	33.012	3.71	1.91	7.90	2.25	21.7	30	7.57	31.85	26.46	159.2 .091
20	7.94	33.422	2.00	2.45	7.74	2.26	24.5					
30	7.57	33.845	2.03	2.50	7.74	2.28	33.0					
40	7.37	33.747	1.62									

C 94 45 56.3 N 124 02.4 W DATE 04 AUG 69 2115 ACT WIRE 00 DRY 58.7 WET 56.4 CRUISE Y6908A
WIND DIRECTION 17 VEL 10 KTS BAR 20 SWELL DIRECTION 30 H 02 T 07 CLOUD 8 AMT 3 WEATHER 02

0	11.27	31.969	7.11	1.04	8.19	2.19	4.2	0	11.27	31.97	24.40	354.4 0
3	10.86	32.626	4.10	1.55	8.08	2.21	10.4	10	8.90	31.28	25.81	220.5 .029
6	10.21	33.025	4.97	2.04	7.98	2.21	17.0	20	8.38	31.55	26.10	192.9 .049
10	8.90	33.272	3.54	2.42	7.85	2.21	22.1	30	7.93	31.68	26.28	174.3 .048
20	8.38	33.543	3.00	2.63	7.80	2.23	25.0					
30	7.92	33.680	2.51	2.79	7.77	2.25	27.1					
40	7.56	33.840	2.14	2.87	7.74	2.26	27.9					

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	ALK	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ⁻³)	(dyn/cm)

C 04 44 52.4 N 124 37.4 W DATE 04 AUG 69 2254 ICT WIRE 00 DRY 54.2 WET 57.2 CRUISE Y69084
WIND DIRECTION 14 VEL 14 KTS BAR 20 SWELL DIRECTION 29 M 02 T 07 CLOUD 3 AMT 7 WEATHER 02

0	14.14	24.334	9.47	.50	8.49	2.09	.1	0	14.14	24.34	21.06	674.4	0
5	12.20	10.742	9.94	.55	8.51	2.17	.1	10	9.18	19.86	25.43	247.2	.047
10	10.39	32.621	4.74	1.39	8.06	2.23	11.0	20	7.91	17.28	24.96	204.1	.070
15	9.18	12.816	4.34	1.94	7.95	2.23	17.5	30	7.78	17.47	24.29	174.0	.089
20	7.90	31.274	2.74	2.59	7.80	2.23	25.3	50	7.34	17.90	24.53	151.1	.122
30	7.77	31.470	2.43	2.57	7.76	2.26	28.4						
40	7.54	33.810	2.19	3.02	7.75	2.26	29.3						
50	7.36	31.842	1.31		7.76	2.26							
60	7.20	33.921	1.89		7.72	2.28	32.1						
70	7.07	33.947	1.45	3.09	7.70	2.28	32.5						

C 07 44 44.7 N 124 17.4 W DATE 04 AUG 69 0127 ICT WIRE 01 DRY 60.9 WET 57.0 CRUISE Y69084
WIND DIRECTION 19 VEL 14 KTS BAR 20 SWELL DIRECTION 27 M 02 T 07 CLOUD 3 AMT 7 WEATHER 02

0	14.47	24.471	9.99	.43	8.52	2.05	.1	0	14.48	24.88	19.79	796.3	0
5	13.32	30.445	9.49	.40	8.48	2.17	.1	10	9.26	32.77	25.36	263.5	.053
10	10.24	31.915	4.38	1.19	8.05	2.21	11.8	20	8.31	33.07	25.74	227.4	.078
15	9.26	32.745	4.15	1.97	7.99	2.23	20.3	30	7.94	33.44	26.10	193.7	.099
20	8.31	33.065	1.90	2.23	7.80	2.23	27.1	50	7.54	33.85	26.47	156.8	.134
30	7.94	33.450	2.05	2.48	7.74	2.25	29.6	75	7.05	33.95	26.61	145.4	.172
40	7.74	33.708	1.54	2.71	7.68	2.26	32.5	100	6.48	33.99	26.72	134.9	.207
50	7.53	33.846	1.51	2.47	7.55	2.28	32.3						
60	7.43	33.881	1.24		7.65	2.30	34.6						
75	7.04	33.940	1.67	2.80	7.70	2.30	34.0						
100	6.46	33.987	1.92	2.80	7.74	2.31	35.0						
125	6.33	33.995	1.95	2.84	7.72	2.31	35.2						

A 100 44 35.2 N 124 32.6 W DATE 05 AUG 69 0435 ICT WIRE 00 DRY 60.0 WET 56.3 CRUISE Y69084
WIND DIRECTION 25 VEL 14 KTS BAR 20 SWELL DIRECTION 29 M 02 T 05 CLOUD 8 AMT 6 WEATHER 02

0	14.66	32.218	4.99	.39	8.12	2.19	.1	0	14.66	32.22	23.93	399.3	0
5	14.67	32.240	7.04	.43	8.12	2.21	.1	10	12.82	32.32	24.38	357.0	.038
10	14.62	32.252	7.07	.43	8.12	2.19	.1	20	8.85	32.44	25.17	281.8	.070
15	12.82	32.312	7.42	.47	8.10	2.19	.1	30	7.94	32.45	25.31	266.4	.097
20	8.85	32.438	7.84	.74	8.12	2.19	1.0	50	7.76	32.58	25.43	256.8	.150
30	7.94	32.443	4.48	1.10	8.14	2.19	6.0	75	7.73	33.31	26.02	202.0	.207
40	7.73	32.513	4.33	1.18	8.15	2.21	7.2	100	7.77	33.62	26.29	176.7	.255
50	7.75	32.571	6.11	1.24	8.13	2.21	9.0	150	7.23	33.89	26.54	153.4	.338
60	7.62	32.938	4.24	1.62	8.05	2.21	15.7	200	6.44	33.95	26.67	141.8	.412
75	7.75	33.308	4.33	1.47	7.97	2.23	21.3						
100	7.76	33.618	1.58	2.14	7.91	2.25	26.5						
150	7.23	33.683	2.41	2.50	7.82	2.28	32.1						
200	6.44	33.948	2.20	2.67	7.77	2.34	34.1						

A 106 44 57.0 N 124 31.5 W DATE 05 AUG 69 1203 ICT WIRE 02 DRY 59.9 WET 57.8 CRUISE Y69084
WIND DIRECTION 30 VEL 04 KTS BAR 21 SWELL DIRECTION 30 M 05 T 07 CLOUD 8 AMT 3 WEATHER 02

0	14.69	31.400	4.78	.27	8.34	2.01	.1	0	14.69	31.40	23.30	459.8	0
5	14.63	31.424	4.83	.24	8.35	2.17	.1	10	12.84	32.11	24.21	372.8	.042
10	14.20	31.610	4.93	.27	8.35	2.17	.1	20	9.41	32.47	25.07	291.3	.075
15	12.84	32.102	7.01	.30	8.35	2.17	.1	30	8.21	32.52	25.32	267.3	.103
20	9.61	32.462	7.01	.64	8.26	2.17	.5	50	7.33	32.61	25.52	246.2	.154
30	8.21	32.512	4.34	.91	8.14	2.17	7.0	75	7.93	33.27	25.95	208.1	.211
40	7.77	32.524	4.33	1.07	8.16	2.17	8.6	100	7.88	33.69	26.29	176.1	.249
50	7.33	32.510	6.12	1.14	8.13	2.17	10.7	150	7.24	33.92	26.54	151.7	.341
60	7.42	32.944	4.32	1.44	8.05	2.19	16.2	200	6.68	33.98	26.68	140.7	.414
75	7.92	33.261	4.42	1.66	7.99	2.21	21.5						
100	7.87	33.687	7.45	1.94	7.90	1.83	27.8						
150	7.24	33.915	2.94	2.17	7.86	2.11	31.8						
200	6.68	33.976	2.44	2.42	7.79	2.02	34.5						

C 10A 44 52.5 N 124 17.7 W DATE 04 AUG 69 1614 ICT WIRE 00 DRY 59.5 WET 56.0 CRUISE Y69084
WIND DIRECTION 24 VEL 04 KTS BAR 23 SWELL DIRECTION 28 M 04 T 07 CLOUD 8 AMT 7 WEATHER 02

0	14.25	30.017	7.15					0	14.25	30.02	22.33	557.7	0
5	14.72	30.019	7.16	.33	8.36	2.15	.1	10	9.73	32.47	25.05	297.8	.042
10	11.63	32.179	7.47	.44	8.29	1.91	.3	20	7.84	32.50	25.36	267.4	.070
15	9.73	32.464	4.88	.72	8.23	1.94	2.3	30	7.27	32.61	25.53	247.7	.098
20	7.84	32.493	4.26	1.10	8.18	2.17	8.1	50	7.60	33.25	25.98	204.7	.141
30	7.26	32.601	4.10	1.29	8.13	2.11	11.8	75	7.91	33.71	26.30	174.7	.188
40	7.27	32.773	5.50	1.42	8.09	2.19	14.4	100	7.59	34.10	26.65	142.1	.278
50	7.60	33.243	4.23	1.86	7.97	2.11	22.1						
60	7.91	33.531	1.74	1.94	7.93	2.23	24.5						
75	7.90	33.706	1.39	2.07	7.90	2.05	26.9						
100	7.59	34.092	2.98	2.24	7.85	2.28	29.9						

C 10V 44 50.2 N 124 13.0 W DATE 05 AUG 69 1734 ICT WIRE 00 DRY 57.3 WET 56.1 CRUISE Y69084
WIND DIRECTION 17 VEL 04 KTS BAR 23 SWELL DIRECTION 28 M 04 T 07 CLOUD 8 AMT 3 WEATHER 02

0	13.56	31.441	6.80	.29	8.35	2.15	.1	0	13.56	31.47	23.58	433.3	0
5	13.47	31.678	7.40	.23	8.38	2.14	.1	10	9.65	32.68	25.22	276.3	.035
10	11.60	32.245	7.63	.47	8.28	2.17	.3	20	7.89	32.84	25.64	237.2	.061
15	9.45	32.673	5.89	1.02	8.10	2.21	8.3	30	7.44	33.18	25.98	210.1	.084
20	7.88	32.853	4.21	1.76	7.94	2.19	20.8	50	7.72	33.70	26.48	172.5	.277
30	7.65	33.176	1.49	2.07	7.88	2.23	26.2						
40	7.82	33.502	2.77	2.26	7.80	2.23	28.3						
50	7.72	33.697	2.59	2.37	7.79	2.25	30.3						
60	7.61	33.818	7.45	2.38	7.61	2.26	30.4						

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/m)
C 110 44 49.4 N 124 07.8 W DATE 05 AUG 69 1846 GCT WIRE 00 DRY 59.1 WET 56.4 CRUISE Y6909A WIND DIRECTION 17 VEL 04 KTS BAR 23 SWELL DIRECTION 28 H 04 T 07 CLOUD 8 AMT 2 WEATHER 02													
0	13.68	31.642	4.94	1.37	8.31	2.17	1.8	0	13.68	31.65	23.69	427.7	0
3	11.88	32.300	4.51	1.78	8.21	2.19	4.7	10	9.49	31.07	25.56	244.4	.173
6	10.58	32.714	5.73	1.26	8.09	2.21	13.3	20	8.51	31.57	26.10	192.4	.155
10	9.49	33.067	4.76	1.84	7.94	2.21	20.0	30	7.96	31.04	26.24	179.9	.174
20	8.51	31.549	3.48	2.18	7.44	2.25	27.4	50	7.19	31.91	26.56	150.0	.107
30	7.96	33.740	2.99	2.27	7.42	2.23	1.2						
40	7.44	33.03	2.53	2.39	7.78	2.25	3.3						
50	7.18	33.902	2.24	2.52	7.76	2.26	32.2						
NM 7 44 39.0 N 124 09.0 W DATE 05 AUG 69 2346 GCT WIRE 00 DRY 58.9 WET 56.8 CRUISE Y6909A WIND DIRECTION 32 VEL 12 KTS BAR 22 SWELL DIRECTION 29 H 03 T 10 CLOUD 8 AMT 2 WEATHER 02													
0	12.04	33.075	5.20	1.53	8.05	2.11	18.2	0	12.04	33.08	25.12	284.4	0
3	10.34	33.220	4.62	1.73	8.01	2.17	18.9	10	8.97	31.65	26.09	193.4	.174
6	9.45	33.414	4.83	1.93	7.94	2.25	22.1	20	7.72	31.79	26.39	145.7	.142
10	8.97	33.644	4.04	2.18	7.85	2.26	28.1	30	7.33	31.88	26.52	153.4	.143
20	7.72	33.784	2.79										
30	7.33	33.879	2.27	2.50	7.81	2.15	33.5						
NM 5 44 39.0 N 124 10.8 W DATE 06 AUG 69 0055 GCT WIRE 07 DRY 59.9 WET 57.7 CRUISE Y6909A WIND DIRECTION 34 VEL 12 KTS BAR 21 SWELL DIRECTION 29 H 04 T 10 CLOUD 8 AMT 2 WEATHER 02													
0	11.91	32.651	6.14	1.18	8.15	2.19	12.1	0	11.91	32.66	24.81	315.3	0
3	10.99	32.715	5.53	1.22	8.08	2.21	11.8	10	9.30	31.38	25.83	218.8	.127
6	9.59	33.302	4.83	1.90	7.94	2.23	24.0	20	8.10	31.62	26.20	147.5	.147
10	9.30	33.376	3.35	2.02	7.91	2.23	23.8	30	7.44	31.82	26.46	159.4	.144
20	8.10	33.515	3.14	2.25	7.83	2.25	29.0	50	7.19	31.91	26.56	149.9	.145
30	7.44	33.816	2.45	2.44	7.78	2.17	32.5						
40	7.27	33.591	2.26	2.52	7.78	2.19	33.3						
50	7.19	33.905	2.24	2.50	7.78	2.05	33.3						
NM 15 44 39.1 N 124 20.6 W DATE 06 AUG 69 0334 GCT WIRE 00 DRY 59.5 WET 57.7 CRUISE Y6909A WIND DIRECTION 35 VEL 14 KTS BAR 20 SWELL DIRECTION 32 H 04 T 07 CLOUD 9 AMT 1 WEATHER 02													
0	12.97	32.204	7.54	1.48	8.31	2.17	1.4	0	12.97	32.21	24.27	367.5	0
3	12.42	32.207	4.76	1.51	8.31	2.17	1.5	10	10.23	32.43	24.94	307.7	.174
6	12.60	32.196	7.59	1.50	8.31	2.17	1.5	20	8.40	32.45	25.24	274.4	.142
10	10.23	32.427	7.00	1.65	8.24	2.19	2.0	30	7.53	32.55	25.44	254.6	.149
20	8.40	32.448	4.36	1.97	8.17		5.1	50	7.38	32.74	25.62	239.4	.138
30	7.52	32.542	5.79	1.31	8.11	2.15	11.5						
40	7.41	32.428	4.61	1.36	8.09	2.17	13.5						
50	7.37	32.736	5.37	1.43	8.05	2.19	15.7						
62	7.42	32.474	5.05	1.51	8.03	2.21	18.2						
A 122 45 14.3 N 124 56.8 W DATE 06 AUG 69 1424 GCT WIRE 00 DRY 59.9 WET 56.5 CRUISE Y6909A WIND DIRECTION 01 VEL 14 KTS BAR 20 SWELL DIRECTION 34 H 05 T 07 CLOUD 9 AMT 3 WEATHER 02													
0	16.29	31.196	4.92	1.30	8.31	2.03	1.1	0	16.29	31.20	22.77	508.0	0
3	16.31	31.197	4.95	1.31	8.33	2.15	1.1	10	15.77	31.56	23.18	470.9	.149
6		31.268	5.96	1.34	8.11	2.17	1.1	20	13.23	32.23	24.23	370.9	.191
10	15.77	31.555	4.11	1.35	8.31	2.17	1.1	30	9.64	32.44	25.04	294.3	.124
20	13.23	32.210	4.72	1.44	8.33	2.19	1.1	50	8.15	32.47	25.29	270.2	.141
30	9.64	32.432	7.15	1.47	8.29	2.21	1.1	75	7.54	32.77	25.62	239.3	.144
40	8.74	32.446	4.88	1.73	8.25	2.14	2.3	100	8.19	31.41	26.03	201.4	.149
50	8.15	32.465	4.53	1.95	8.22	2.19	6.1	150	7.52	31.77	26.41	165.7	.131
62	7.76	32.576	4.10	1.07	8.18	2.19	9.8	200	7.05	31.93	26.60	148.3	.140
75	7.53	32.770	4.88	1.19	8.14	2.23	13.5						
100	4.19	33.408	4.18	1.54	8.01	2.25	23.0						
150	7.51	33.770	3.45		7.94	2.26							
200	7.05	33.933	2.65	2.37	7.86	2.28	34.2						
C 125 45 20.4 N 124 45.0 W DATE 06 AUG 69 1729 GCT WIRE 00 DRY 58.1 WET 55.9 CRUISE Y6909A WIND DIRECTION 00 VEL 14 KTS BAR 20 SWELL DIRECTION 31 H 04 T 06 CLOUD 9 AMT 5 WEATHER 02													
0	15.18	32.135	4.33	1.37	8.33	2.25	1.1	0	15.18	32.14	23.76	414.0	0
3	15.08	32.182	4.54	1.34	8.34	2.23	1.1	10	14.55	32.18	23.92	400.3	.141
6	14.72	32.189	4.56	1.34	8.33	2.25	1.1	20	10.86	32.39	24.80	317.1	.177
10	14.55	32.177	4.46	1.37	8.33	2.25	1.1	30	9.18	32.47	25.11	287.9	.107
20	10.86	32.388	7.11	1.48	8.31	2.25	1.1	50	7.89	32.47	25.33	264.4	.142
30	9.18	32.445	7.04	1.56	8.28	2.23	1.1	75	7.81	32.97	25.73	228.4	.124
40	8.43	32.475	4.52	1.71	8.24	2.25	4.3	100	4.17	31.56	26.14	190.4	.177
50	7.88	32.443	3.28	1.80	8.23	2.25	4.6	150	7.61	31.81	26.42	144.5	.145
62	7.55	32.416	5.85	1.90	8.18	2.26	10.8	200	6.96	31.94	26.61	144.9	.143
75	7.40	32.463	5.45	1.12	8.10	2.19	14.7						
100	4.17	33.552	3.91	1.47	7.98	2.11	25.9						
150	7.41	33.404	3.93	1.56	7.95	2.33	24.9						
200	6.46	33.936	2.79	1.84	7.87	2.14	31.6						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
C 127 45 20.0 N 124 32.5 W DATE 06 AUG 69 1915 ICT WIRE 00 DRY 54.7 WET 55.1 CRUISE Y690RA													
WIND DIRECTION 00 VEL 14 KTS BAR 20 SWELL DIRECTION 11 M 03 T 10 CLOUD 8 AMT 5 WEATHER 02													
0	14.42	32.275	6.67		8.33	2.17	.1	0	14.92	32.28	23.92	400.4	0
3	14.44	32.274	6.67	.27	8.32	2.17	.1	10	12.49	32.28	24.42	353.3	.018
6	14.48	32.241	6.67	.26	8.32	2.17	.1	20	8.91	32.47	25.14	241.0	.064
10	12.49	32.240	6.93	.40	8.30	2.15	.1	30	8.19	32.47	25.29	270.4	.097
20	8.91	32.461	6.61	.70	8.22	2.23	2.9	50	7.52	32.53	25.43	257.1	.150
30	8.19	32.464	6.63	.44	8.20	2.19	5.6	75	7.91	33.17	25.88	214.7	.209
40	7.79	32.463	6.51	.93	8.19	2.19	7.3	100	8.05	33.62	26.21	187.9	.258
50	7.51	32.423	6.24	1.00	8.17	2.19	9.6	150	7.35	33.89	26.52	154.1	.343
62	7.46	32.464	5.28	1.30	8.09	2.21	14.3	200	6.72	33.95	26.65	147.0	.414
75	7.40	33.154	4.67	1.54	8.03	2.21	20.4						
100	8.05	33.617	3.69	1.91	7.94	2.25	28.3						
150	7.35	33.883	3.00	2.19	7.87	2.26	33.0						
200	6.72	33.945	2.68	2.38	7.83	2.26	35.5						
C 129 45 20.7 N 124 19.0 W DATE 06 AUG 69 2145 ICT WIRE 00 DRY 59.1 WET 56.0 CRUISE Y690RA													
WIND DIRECTION 33 VEL 14 KTS BAR 20 SWELL DIRECTION 11 M 04 T 10 CLOUD 8 AMT 2 WEATHER 02													
0	13.66	31.045	7.89	.36	8.39	2.15	.1	0	13.66	31.05	23.24	465.8	0
3	13.25	31.227	7.89	.34	8.38	2.14	.1	10	8.68	32.45	25.20	274.5	.077
6	10.83	32.149	7.32	.50	8.28	2.14	.1	20	8.11	32.45	25.29	270.4	.065
10	4.68	32.447	7.01	.72	8.22	2.14	1.6	30	7.72	32.55	25.42	258.0	.091
20	8.11	32.449	6.68	.91	8.19	2.14	4.1	50	7.56	32.98	25.78	227.7	.179
30	7.72	32.546	6.20	1.05	7.96	2.15	8.9	75	7.79	33.55	26.20	184.8	.190
40	7.47	32.733	7.24		8.10	2.17		100	7.36	33.89	26.52	154.5	.233
50	7.55	32.974	5.04	1.53	8.03	2.17	14.6	150	7.35	33.95	26.57	150.5	.309
62	7.79	33.242	4.28	1.85	7.94	2.21	23.3						
75	7.78	33.549	3.37	2.24	7.84	2.23	28.7						
100	7.36	33.893	2.53	2.49	7.80	2.25	34.7						
150	7.35	33.948	2.52	2.52	7.81	2.23	35.8						
C 130 45 20.4 N 124 12.5 W DATE 06 AUG 69 2310 ICT WIRE 04 DRY 57.9 WET 55.3 CRUISE Y690RA													
WIND DIRECTION 33 VEL 14 KTS BAR 19 SWELL DIRECTION 11 M 03 T 10 CLOUD 8 AMT 2 WEATHER 02													
0	12.85	30.914	8.25		8.39	2.14	.1	0	12.85	30.92	23.29	460.3	0
3	12.43	31.735	7.93	.31	8.33	2.09	.1	10	8.16	32.46	25.29	270.7	.077
6	10.86	32.527	7.34	.44	8.25	1.95	1.1	20	7.41	32.58	25.49	251.5	.063
10	8.16	32.459	6.24	1.11	8.12	2.07	6.0	30	7.29	32.70	25.60	241.0	.087
20	7.40	32.574	4.00	1.30	8.11	2.15	8.4	50	7.53	33.19	25.95	204.2	.172
30	7.28	32.695	5.44	1.62	8.04	2.09	12.5	75	7.67	33.74	26.38	167.5	.179
40	7.56	33.123	4.78	1.90	7.99	2.19	17.2	100	7.29	33.91	26.54	152.0	.219
50	7.52	33.181	4.72	1.98	7.96	2.19	18.1						
62	7.72	33.448	3.80	2.23	7.91	2.21	21.9						
75	7.66	33.758	2.57										
100	7.28	33.901	1.02		7.78	2.09	28.4						
125	6.94	33.950	2.54		7.81	1.98							
C 131 45 20.4 N 124 05.6 W DATE 07 AUG 69 0050 ICT WIRE 04 DRY 58.4 WET 55.9 CRUISE Y690RA													
WIND DIRECTION 33 VEL 14 KTS BAR 18 SWELL DIRECTION 11 M 04 T 10 CLOUD 8 AMT 1 WEATHER 02													
0	13.39	31.580	8.31	.52	8.30	2.23	.8	0	13.39	31.58	23.70	421.3	0
3	13.43	31.447	8.43	.51	8.27	2.23	.8	10	10.77	32.61	24.99	294.2	.136
6	12.67	31.428	8.31	.62	8.25	2.23	1.4	20	8.40	32.82	25.53	247.0	.063
10	10.72	32.410	5.67	1.33	8.08	2.28	8.2	30	7.81	33.05	25.80	227.1	.087
20	8.40	32.819	3.30	2.11	7.80	2.28	21.0	50	7.67	33.67	26.31	174.0	.126
30	7.80	33.042	3.77	2.46	7.85	2.28	20.4	75	7.01	33.94	26.61	145.5	.146
40	7.58	33.410	3.14		7.72	2.28							
50	7.66	33.666	2.61		7.79	2.28							
62	7.46	33.868	2.01										
75	7.00	33.934	1.87		7.71	2.31							
C 132 45 20.3 N 124 02.0 W DATE 07 AUG 69 0214 ICT WIRE 00 DRY 57.4 WET 54.0 CRUISE Y690RA													
WIND DIRECTION 01 VEL 12 KTS BAR 18 SWELL DIRECTION 14 M 05 T 07 CLOUD 8 AMT 1 WEATHER 02													
0	11.31	32.471	4.34	1.52	8.12	2.25	9.9	0	11.31	32.58	24.46	310.4	0
3	11.08	32.547	4.33		8.13	2.25		10	7.84	33.18	25.89	212.8	.026
6	10.32	32.675	5.89	1.44	8.06	2.25	12.9	20	7.56	33.73	26.37	167.4	.045
10	7.87	33.177	3.21	2.35	7.81	2.25	24.7	30	7.43	33.84	26.47	157.8	.061
20	7.55	33.727	2.74	2.65	7.75	2.28	29.3						
30	7.42	33.836	2.17	2.56	7.76	2.26	27.6						
A 133 45 25.3 N 124 01.1 W DATE 07 AUG 69 0315 ICT WIRE 00 DRY 54.3 WET 54.8 CRUISE Y690RA													
WIND DIRECTION 34 VEL 14 KTS BAR 17 SWELL DIRECTION 12 M 03 T 06 CLOUD 8 AMT 1 WEATHER 02													
0	11.56	32.395	4.75	1.29	8.19	2.21	8.2	0	11.56	32.40	24.68	320.1	0
3	10.47	32.444	4.13	1.44	8.14	2.21	9.4	10	9.24	32.89	25.45	254.4	.029
6	9.48	32.797	4.62	2.16	7.95	2.21	14.8	20	7.89	33.27	25.92	210.4	.052
10	9.24	32.803	4.40	2.16	7.93	2.21	14.4	30	8.73	33.47	25.99	203.7	.073
20	7.40	33.213	3.01	2.47	7.83	2.23	25.5						
30	8.73	33.449	2.45		7.80	2.23							

OBSERVED								INTERPOLATED				DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	ΔD	
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(x10 ³)	(dyn.m)	
A 140 44 52.3 N 124 17.4 W DATE 07 AUG 69 1217 ICT WIRE 04 DRY 57.3 WET 55.3 CRUISE Y69004 WIND DIRECTION 35 VEL 05 KTS BAR 19 SWELL DIRECTION 13 M 02 T 05 CLOUD 6 AMT 7 WEATHER 03														
0	12.64	31.974	7.06	.50	8.31	2.19	1.0	0	12.64	31.98	24.15	378.3	0	
3	12.63	31.980	7.02	.60	8.31	2.19	1.1	10	12.32	32.10	24.31	363.8	.037	
6	12.59	32.012	7.87		8.31	2.19	1.1	20	7.66	32.49	25.38	261.3	.164	
10	12.32	32.095	7.10		8.31	2.19	1.0	30	7.23	32.67	25.58	242.2	.104	
20	7.65	32.497	6.99	1.18	8.14	2.19	8.0	50	7.54	33.16	25.92	210.3	.133	
30	7.23	32.670	6.47	1.27	8.09	2.21	13.9	75	7.79	33.75	26.35	170.3	.184	
40	7.27	32.909	6.04	1.38	8.05	2.21	17.0	100	7.35	33.89	26.53	151.0	.227	
50	7.55	33.150	4.26		7.97	2.23								
62	7.79	33.561	2.90	1.98	7.85	2.25	28.1							
75	7.78	33.743			7.80	2.26								
100	7.15	33.889	2.69	2.07	7.43	2.28	30.7							
C 141 44 50.9 N 124 11.4 W DATE 07 AUG 69 1515 ICT WIRE 06 DRY 7.6 WET 55.2 CRUISE Y69004 WIND DIRECTION 30 VEL 03 KTS BAR 19 SWELL DIRECTION 12 M 02 T 05 CLOUD 6 AMT 9 WEATHER 03														
0	11.54	32.280	6.37	.74	8.21	2.21	4.4	0	11.54	32.28	24.59	334.2	0	
3	11.50	32.395	6.89	.70	8.14	2.23	5.7	10	8.79	32.61	25.31	268.3	.133	
6	11.34	32.448	6.16	1.05	8.01	2.21	12.2	20	7.59	32.71	25.56	244.6	.105	
10	8.79	32.407	4.86		7.98	2.19	16.5	30	7.26	32.89	25.75	224.1	.173	
20	7.59	32.700	4.78	1.48	8.00	2.19	18.0	50	7.76	33.67	26.29	178.4	.123	
30	7.25	32.889	4.43	1.64	8.00	2.21	17.5	75	7.19	33.93	26.57	148.8	.163	
40	7.45	33.199	4.04	1.86	7.94	2.25	18.4							
50	7.75	33.644	2.54	2.19	7.80	2.28	29.4							
62	7.51	33.845	2.71	2.12	7.82	2.30	29.7							
75	7.18	33.922	2.25	2.43	7.77	2.30	30.8							
D8 1 44 48.7 N 124 05.5 W DATE 07 AUG 69 1704 ICT WIRE 00 DRY 52.0 WET 51.4 CRUISE Y69004 WIND DIRECTION 32 VEL 04 KTS BAR 20 SWELL DIRECTION 12 M 02 T 05 CLOUD 6 AMT 7 WEATHER 02														
0	9.58	33.407	4.44	2.17	7.91	2.28		0	9.58	33.41	25.81	220.7	0	
3	9.51	33.423	4.33	1.81	7.91	2.28		10	7.97	33.72	26.30	173.9	.123	
6	8.45	33.521	3.45	2.00	7.84	2.31		20	7.43	33.84	26.47	157.9	.039	
10	7.97	33.719	2.81	1.84	7.82	2.30								
20	7.42	33.833	2.32	1.77	7.78	2.30								
D9 3 44 49.8 N 124 07.9 W DATE 08 AUG 69 1804 ICT WIRE 00 DRY 58.0 WET 56.1 CRUISE Y69004 WIND DIRECTION 28 VEL 04 KTS BAR 20 SWELL DIRECTION 12 M 02 T 05 CLOUD 6 AMT 7 WEATHER 02														
0	11.70	32.531	6.13	.88	8.10	2.19	11.3	0	11.70	32.54	24.75	320.5	0	
3	11.27	32.500	6.06	.76	8.12	2.19	10.2	10	7.92	32.90	25.66	234.6	.022	
6	9.41	32.770	4.99	.68			16.1	20	7.72	33.34	26.04	199.2	.044	
10	7.91	32.891	4.36	1.55	7.93	2.19	19.7	30	7.77	33.64	26.27	177.3	.082	
20	7.72	33.313	3.34	1.81	7.84	2.23	26.8							
30	7.76	33.837	2.89	2.08	7.80	2.23	29.8							
40	7.55	33.814	3.03	1.90	7.81	2.23	30.5							
C 144 44 53.7 N 124 23.4 W DATE 07 AUG 69 2010 ICT WIRE 00 DRY 58.5 WET 56.2 CRUISE Y69004 WIND DIRECTION 28 VEL 02 KTS BAR 20 SWELL DIRECTION 12 M 03 T 10 CLOUD 6 AMT 2 WEATHER 02														
0	13.54	32.031	7.06		8.33	2.19	.1	0	13.54	32.04	24.02	391.0	0	
3	13.35	32.015	7.04	.37	8.35	2.17	.1	10	10.23	32.38	24.90	307.4	.035	
6	12.64	32.155	7.05	.37	8.32	2.17	.1	20	8.09	32.45	25.29	270.4	.080	
10	10.23	32.377	7.14	.41	8.28	2.17	.1	30	7.77	32.87	25.35	244.4	.101	
20	8.09	32.444	6.41	.75	8.19	2.09	4.1	50	7.52	32.86	25.49	232.4	.143	
30	7.76	32.464	6.37	.94	8.17	2.15	4.4	75	7.93	33.49	26.12	191.7	.193	
40	7.34	32.544	6.95	1.16	8.12	2.15	11.1	100	7.76	33.78	26.39	147.7	.239	
50	7.51	32.854	6.28	1.58	8.06	2.17	15.3	150	8.74	33.98	26.68	139.8	.315	
62	7.62	33.182	4.38	1.71	7.98	2.17	21.2							
75	7.92	33.482	3.89	1.86	7.94	2.28	25.3							
100	7.75	33.777	3.14	2.12	7.87	2.23	27.6							
150	8.74	33.982	2.01	2.59	7.77	2.26	34.1							
C 144 44 57.4 N 124 35.4 W DATE 07 AUG 69 2245 ICT WIRE 00 DRY 59.5 WET 56.8 CRUISE Y69004 WIND DIRECTION 30 VEL 10 KTS BAR 20 SWELL DIRECTION 12 M 03 T 10 CLOUD 6 AMT 4 WEATHER 02														
0	14.73	32.237	6.57	.26	8.31	2.17	.1	0	14.73	32.24	23.93	399.3	0	
3	14.27	32.229	6.65	.25	8.32	2.17	.1	10	13.13	32.23	24.21	372.9	.032	
6	14.13	32.232	6.64	.30	8.32	2.17	.1	20	9.30	32.45	25.10	287.3	.072	
10	13.13	32.224	6.80	.29	8.29	2.15	.1	30	8.65	32.48	25.23	278.4	.103	
20	9.30	32.446	7.14	.49	8.25	2.17	.3	50	7.89	32.58	25.62	258.4	.151	
30	8.65	32.474	6.72	.71	8.21	2.17	1.1	75	7.89	33.26	25.95	204.0	.212	
40	8.33	32.444	6.44	.74	8.18	2.17	5.4	100	7.92	33.65	26.25	179.8	.263	
50	7.88	32.571	6.07	.94	8.14	2.17	9.7	150	7.35	33.88	26.51	154.7	.344	
62	7.83	32.455	6.36	1.13	8.04	2.17	13.9	200	8.49	33.95	26.67	141.1	.415	
75	7.88	33.255	4.51	1.45	8.02	2.21	19.4							
100	7.91	33.447	3.72	1.78	7.93	2.23	28.0							
150	7.35	33.876	1.76	1.43	7.90	2.25	27.1							
200	6.59	33.948	2.76	2.19	7.82	2.26	32.7							

OBSERVED								INTERPOLATED				DERIVED	
D	T	S	O ₂	PO ₄	pH	AM	NO ₃	E	T	S	σ _t	δ	Δδ
(m)	(°C)	(‰)	(ml/l)	(μm)		(meq/l)	(μm)	(m)	(°C)	(‰)		(10 ³)	(dyn/m)
C 149 45 01.5 N 124 40.4 W DATE 08 AUG 69 0315 ACT WIRE 00 DRY 40.5 WET 44.4 CRUISE Y69084													
WIND DIRECTION 30 VEL 04 KTS RAR 20 SWELL DIRECTION 12 M 03 T 06 CLUD 8 AMT 4 WEATHER 12													
0	14.71	31.421	4.14	.42	8.24	2.15	.1	0	15.71	31.83	21.40	444.4	0
5	15.72	31.423	4.24	.44	8.24	2.15	.1	10	15.74	31.84	21.51	443.7	.154
10	14.52	31.425	4.15	.43	8.24	2.15	.1	20	13.74	32.13	24.15	379.0	.145
15	15.14	31.460	4.21	.42	8.24	2.15	.1	30	9.54	32.43	25.06	243.9	.114
20	13.25	32.175	4.44	.44	8.26	2.15	.1	40	7.40	32.46	25.12	247.4	.175
30	8.58	32.424	7.15	.41	8.20	2.17	.1	50	4.01	34.00	25.73	224.3	.137
40	4.18	32.454	4.78	.43	8.17	2.17	3.4	100	0.00	34.38	24.03	201.0	.191
50	7.89	32.451	4.61	.44	8.18	2.17	5.9	150	7.97	33.83	24.44	142.7	.142
62	7.97	32.494	4.82	1.41	8.09	2.17	11.3	200	7.11	33.95	24.40	147.4	.149
74	8.01	32.498	4.12	1.43	8.02	2.19	15.7						
100	8.00	33.177	4.31	1.71	7.95	2.19	21.7						
150	7.57	33.821	7.41	2.00	7.86	2.23	24.5						
200	7.11	33.951	7.41	2.31	7.80	2.25	31.9						
A 149 45 05.0 N 124 40.4 W DATE 08 AUG 69 0317 ACT WIRE 00 DRY 40.6 WET 47.9 CRUISE Y69084													
WIND DIRECTION 30 VEL 04 KTS RAR 20 SWELL DIRECTION 12 M 03 T 06 CLUD 8 AMT 4 WEATHER 12													
0	14.44	32.212	4.41	.37	8.27	2.19	.1	0	14.44	32.22	23.47	404.4	0
5	14.24	32.114	4.41	.37	8.26	2.17	.1	10	12.78	32.27	24.35	354.7	.138
10	14.16	32.214	4.47	.44	8.27	2.17	.1	20	9.13	32.44	25.11	287.4	.071
15	12.78	32.245	4.47	.42	8.24	2.17	.1	30	9.04	32.47	25.16	282.4	.099
20	9.11	32.447	7.31	.44	8.24	2.17	.1	40	8.21	32.53	25.33	244.7	.154
30	8.04	32.448	7.14	.74	8.23	2.17	.1	50	7.78	32.87	24.86	234.4	.217
40	8.44	32.444	4.47	.91	8.17	2.17	5.1	100	8.06	33.52	24.13	191.3	.270
50	8.21	32.521	4.14	1.11	8.18	2.17	7.6	150	7.54	33.04	24.44	181.1	.148
62	8.02	32.604	4.96					200	6.60	33.94	24.87	141.5	.174
74	7.77	32.841	4.43	1.53	8.08	2.19	14.2						
100	8.04	33.514	7.74	2.00	7.94	2.23	24.7						
150	7.53	33.815	7.15	2.15	7.90	2.25	27.7						
200	6.60	33.944	7.54	2.53	7.81	2.26	33.1						
A 144 45 03.5 N 124 04.0 W DATE 08 AUG 69 1235 ACT WIRE 00 DRY 43.4 WET 51.9 CRUISE Y69084													
WIND DIRECTION 00 VEL 04 KTS RAR 19 SWELL DIRECTION 12 M 02 T 05 CLUD 8 AMT 2 WEATHER 02													
0	10.40	32.544	4.03	1.05	8.14	2.21	9.7	0	10.40	32.59	25.00	297.4	0
5	9.77	32.619	4.55	1.47	7.94	2.21	14.8	10	8.46	32.97	24.44	234.4	.127
10	9.43	32.820	4.27	1.54	7.96	2.21	17.7	20	7.78	33.29	24.07	194.7	.048
15	8.44	32.964	7.51	1.89	7.86	2.19	24.0	30	7.41	33.74	24.16	144.7	.047
20	7.77	33.349	2.46	2.02	7.83	2.23	28.5						
30	7.41	33.730	2.14	2.25	7.76	2.25	31.2						
40	7.47	33.944	2.45	2.23	7.80	2.25	31.7						
C 157 45 02.4 N 124 10.7 W DATE 08 AUG 69 1506 ACT WIRE 00 DRY 54.5 WET 53.4 CRUISE Y69084													
WIND DIRECTION 00 VEL 04 KTS RAR 19 SWELL DIRECTION 12 M 02 T 05 CLUD 8 AMT 4 WEATHER 02													
0	13.02	31.447	4.30	.34	8.40	2.23	.1	0	13.02	31.84	23.47	402.4	0
5	12.72	31.640	4.24	.34	8.40	2.21	.1	10	9.72	32.44	24.04	244.7	.135
10	12.94	31.671	4.14	.38	8.38	2.21	.1	20	8.25	32.66	24.41	244.4	.143
15	9.72	32.444	4.13	.94	8.24	2.19	.1	30	7.48	32.73	24.49	241.4	.144
20	8.24	32.631	4.11	1.24	7.94	2.19	21.2	40	7.47	33.31	24.05	197.9	.132
30	7.44	32.723	4.07	.83	8.24	2.19		50	7.47	33.84	24.51	154.4	.176
40	7.14	33.027	4.53	1.27	7.47	2.21	21.2	100	7.47	33.94	24.40	144.4	.214
50	7.47	33.310	4.14	1.43	7.94	2.23	21.9						
62	7.74	33.649	2.44	1.47	7.82	2.26	30.4						
74	7.47	33.871	2.51	2.13	7.81	2.24	32.4						
100	7.04	33.934	2.32	2.40	7.80	2.26	33.9						
C 154 44 59.9 N 124 14.0 W DATE 08 AUG 69 1625 ACT WIRE 00 DRY 57.5 WET 45.4 CRUISE Y69084													
WIND DIRECTION 02 VEL 12 KTS RAR 14 SWELL DIRECTION 11 M 02 T 05 CLUD 6 AMT 2 WEATHER 02													
0	13.25	31.509	7.34	.47	8.31	2.17	.1	0	13.25	31.51	23.47	421.4	0
5	13.35	31.497	7.24	.48	8.31	2.15	.1	10	10.50	32.40	24.47	310.1	.137
10	13.25	31.739	7.41	.75	8.24	2.19	.1	20	8.22	32.44	24.24	271.2	.046
15	10.50	32.400	7.29	.44	8.22	2.17	.2	30	7.82	32.51	24.17	242.4	.102
20	8.22	32.459	4.72	1.17	8.18	2.17	3.1	40	7.47	33.20	24.93	204.4	.140
30	7.81	32.501	4.31	.81	8.15	2.15	6.4	50	7.48	33.73	24.32	171.1	.148
40	7.53	32.819	4.45	1.47	8.05	2.17	13.1	100	7.44	33.87	24.49	157.1	.290
50	7.72	33.196	4.54	1.53	7.98	2.19	16.4	150	6.74	33.98	24.48	140.2	.103
62	7.74	33.419	1.73	2.08	7.91	2.21	21.4						
74	7.47	33.722	1.11	2.51	7.85	2.23	26.5						
100	7.45	33.864	1.02	2.50	7.85	2.25	28.1						
150	6.74	33.977	1.94	2.63	7.74	2.26	33.4						
C 159 44 58.2 N 124 24.9 W DATE 08 AUG 69 1716 ACT WIRE 00 DRY 57.1 WET 55.4 CRUISE Y69084													
WIND DIRECTION 34 VEL 14 KTS RAR 18 SWELL DIRECTION 11 M 02 T 05 CLUD 6 AMT 1 WEATHER 02													
0	13.95	31.549	7.29	.30	8.31	2.17	.1	0	13.95	31.55	23.56	434.7	0
5	13.17	31.513	7.23	.72	8.23	2.19	.1	10	9.41	32.44	24.10	288.4	.076
10	10.20	32.409	7.30	.59	8.25	2.17	.1	20	8.58	32.47	24.23	275.7	.044
15	9.41	32.458	7.37	.37	8.35	2.17	.1	30	8.04	32.47	24.31	264.4	.102
20	8.58	32.467	7.10	.85	8.32	2.25	2.0	40	7.47	32.75	24.41	240.0	.142
30	8.04	32.462	6.72	1.03	8.19	2.17	5.5	50	7.82	33.45	24.11	199.4	.187
40	7.59	32.498	6.45	1.15	8.16	2.17	7.9	100	7.53	33.80	24.41	185.3	.241
50	7.47	32.747	5.63	1.37	8.10	2.19	13.1	150	6.95	33.93	24.61	144.2	.119
62	7.71	33.159	4.72	1.66	7.99	2.21	20.3	200	6.34	34.01	24.76	132.9	.189
74	7.82	33.440	4.04	1.91	7.96	2.23	23.3						
100	7.48	33.796	3.22	2.16	7.87	2.25	24.2						
150	6.95	33.929	2.95	2.37	7.84	2.26	32.3						
200	6.34	34.015	2.02	2.69	7.75	2.26	37.4						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	σ _s	ΔD
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ³)	(dyn/m)
C 164 44 56.7 N 124 31.6 W DATE 08 AUG 69 1937 ACY WIRE 00 DRY 54.1 WET 45.5 CHUISP YAGORA													
WIND DIRECTION 34 VEL 14 KTS BAR 18 SWELL DIRECTION 11 M 02 T 05 CLOUD 6 AMT 1 WEATHER 02													
0	14.40	31.734	4.89	.30	8.32	2.15	.1	0	14.40	31.74	23.42	429.7	0
3	14.39	31.734	4.81	.31	8.33	2.15	.1	10	13.98	32.10	23.98	395.7	.174
6	14.37	31.762	4.80	.32	8.36	2.15	.1	20	9.40	32.43	24.04	295.4	.176
10	13.94	32.093	4.81	.35	8.32	2.15	.1	30	8.27	32.45	24.28	271.1	.104
20	8.50	32.625	4.73	.47	8.25	2.15	.1	50	7.55	32.52	25.42	247.8	.147
30	8.27	32.444	4.73	.40	8.19	2.15	.1	75	7.82	33.19	24.91	212.1	.216
40	7.83	32.444	4.34	.42	8.17	2.15	.1	100	7.96	33.67	24.26	178.0	.265
50	7.54	32.419	4.34	.41	8.09	2.15	.1	150	7.13	33.91	24.47	150.4	.347
60	7.46	32.742	4.16	.71	8.18	2.15	.1	200	6.44	33.96	24.70	134.7	.414
70	7.41	33.146	4.00	.91	8.09	2.15	.1						
80	7.46	33.666	3.43	1.31	8.01	2.19	.1						
100	7.12	33.902	3.04	1.64	7.91	2.23	.1						
150	7.12	33.902	3.04	1.64	7.91	2.23	.1						
200	6.44	33.963	2.71	2.26	7.79	2.26	.1						
C 167 44 52.2 N 124 17.6 W DATE 08 AUG 69 2120 ACY WIRE 01 DRY 57.6 WET 54.1 CHUISP YAGORA													
WIND DIRECTION 35 VEL 14 KTS BAR 18 SWELL DIRECTION 11 M 02 T 10 CLOUD 6 AMT 1 WEATHER 02													
0	11.45	31.904	7.04	.54	8.29	2.19	.1	0	11.45	32.00	24.32	362.7	0
3	10.72	32.474	4.74	.48	8.22	2.19	.1	10	8.17	32.45	25.27	271.4	.172
6	9.48	32.452	4.80	.42	8.22	2.19	.1	20	7.57	32.50	25.40	249.4	.158
10	8.17	32.444	4.33	1.06	8.15	2.17	.1	30	7.44	32.74	25.63	214.7	.183
20	7.54	32.607	4.99	1.31	8.13	2.17	.1	50	7.69	33.41	24.10	147.0	.254
30	7.34	32.743	4.25	.85	8.05	2.17	.1	75	7.45	33.41	24.42	144.0	.171
40	7.54	33.134	4.53	1.90	7.99	2.21	.1	100	7.15	33.40	24.43	133.0	.211
50	7.48	33.403	3.72	2.14	7.93	2.21	.1						
60	7.72	33.454	2.70	2.47	7.82	2.22	.1						
70	7.64	33.402	2.15	2.47	7.82	2.22	.1						
100	7.36	33.491	2.40	2.54	7.82	2.22	.1						
C 169 44 50.4 N 124 17.5 W DATE 08 AUG 69 2248 ACY WIRE 01 DRY 48.5 WET 44.0 CHUISP YAGORA													
WIND DIRECTION 35 VEL 14 KTS BAR 17 SWELL DIRECTION 11 M 02 T 10 CLOUD 6 AMT 1 WEATHER 02													
0	11.37	32.414	4.47	.40	8.18	2.22	.1	0	11.07	32.42	24.78	314.3	0
3	10.02	32.701	5.00	.49	8.03	2.19	.1	10	8.23	32.82	25.46	244.7	.178
6	9.37	32.480	4.93	1.22	7.98	2.21	.1	20	7.34	32.93	25.77	224.7	.152
10	8.23	32.815	4.97	1.67	7.97	2.21	.1	30	7.49	33.29	26.08	194.2	.173
20	7.34	32.923	4.32	1.67	7.97	2.21	.1	50	7.56	33.82	26.44	161.1	.108
30	7.48	33.142	3.49	1.69	7.97	2.21	.1	75	7.26	33.91	26.55	150.0	.147
40	7.73	33.504	2.51	2.18	7.80	2.23	.1						
50	7.55	33.414	2.67	2.12	7.81	2.23	.1						
60	7.62	33.449	2.44	2.17	7.81	2.23	.1						
70	7.75	33.404	2.51	2.17	7.79	2.26	.1						
C 164 44 45.5 N 124 21.0 W DATE 09 AUG 69 0025 ACY WIRE 00 DRY 57.7 WET 54.0 CHUISP YAGORA													
WIND DIRECTION 35 VEL 14 KTS BAR 19 SWELL DIRECTION 12 M 03 T 06 CLOUD 6 AMT 0 WEATHER 02													
0	13.29	31.945	7.44	.33	8.31	2.19	.1	0	13.29	31.95	24.00	392.8	0
3	12.13	31.424	4.37	.39	8.31	2.15	.1	10	10.91	32.41	24.80	316.6	.135
6	11.29	31.924	4.93	.39	8.32	2.17	.1	20	7.90	32.42	25.15	244.4	.145
10	10.41	32.403	7.48	.47	8.25	2.19	.1	30	7.55	32.57	25.46	254.2	.090
20	7.54	32.564	4.93	1.04	8.10	2.17	.1	50	7.53	33.16	25.93	210.0	.137
30	7.15	32.734	4.37	1.28	8.05	2.17	.1	75	7.81	33.74	26.34	170.0	.174
40	7.52	33.157	4.30	1.52	7.96	2.21	.1	100	7.49	33.67	26.49	157.4	.225
50	7.40	33.654	3.44	1.78	7.90	2.23	.1						
60	7.40	33.772	1.33	1.96	7.87	2.25	.1						
70	7.43	33.444	2.74	2.06	7.82	2.25	.1						
NM 24 44 39.1 N 124 34.6 W DATE 09 AUG 69 0304 ACY WIRE 00 DRY 59.0 WET 56.9 CHUISP YAGORA													
WIND DIRECTION 34 VEL 14 KTS BAR 14 SWELL DIRECTION 12 M 04 T 06 CLOUD 6 AMT 0 WEATHER 02													
0	13.79	32.154	4.75	.37	8.33	2.19	.1	0	13.79	32.16	24.08	344.6	0
3	13.98	32.149	4.80	.34	8.32	2.17	.1	10	13.02	32.22	24.27	367.4	.118
6	13.91	32.189	4.83	.35	8.31	2.17	.1	20	8.49	32.44	24.18	280.6	.070
10	13.02	32.219	4.92	.41	8.30	2.17	.1	30	8.33	32.50	24.29	270.6	.108
20	8.85	32.456	4.41	.73	8.21	2.17	.1	50	7.45	32.60	25.50	250.7	.150
30	8.33	32.490	4.33	.94	8.17	2.17	.1	75	8.05	33.30	25.96	207.0	.207
40	7.43	32.549	4.08	1.04	8.14	2.17	.1	100	7.49	33.68	26.28	177.4	.245
50	7.43	32.599	3.94	1.14	8.12	2.17	.1	150	7.10	33.94	26.40	147.7	.336
60	7.62	32.898	3.12	1.40	8.04	2.10	.1	200	6.73	34.00	26.49	139.1	.408
70	7.43	33.204	4.26	1.80	7.97	2.21	.1						
80	7.88	33.672	3.44	1.86	7.91	2.23	.1						
100	7.10	33.937	2.14	2.37	7.78	2.25	.1						
150	7.10	33.937	2.14	2.37	7.78	2.25	.1						
200	6.73	34.000	2.11	2.45	7.78	2.26	.1						
NM 10 44 39.1 N 124 17.7 W DATE 09 AUG 69 1435 ACY WIRE 03 DRY 56.0 WET 54.9 CHUISP YAGORA													
WIND DIRECTION 35 VEL 0 KTS BAR 18 SWELL DIRECTION 12 M 03 T 05 CLOUD 6 AMT 0 WEATHER 02													
0	11.40	32.414	7.15	.40	8.26	2.23	.1	0	11.40	32.42	24.72	323.9	0
3	11.21	32.425	7.00	.59	8.24	2.23	.1	10	9.16	32.78	25.14	261.2	.029
6	8.91	32.552	4.93	1.19	8.03	2.19	.1	20	7.27	32.99	25.83	214.7	.053
10	8.14	32.772	4.71	1.51	7.93	2.21	.1	30	7.44	33.25	26.00	207.4	.074
20	7.26	32.949	4.57	1.48	7.98	2.21	.1	50	7.70	33.72	26.34	171.0	.112
30	7.43	33.240	4.04	1.54	7.94	2.23	.1						
40	7.78	33.554	2.97	1.94	7.82	2.26	.1						
50	7.70	33.714	2.54	1.98	7.80	2.25	.1						
60	7.62	33.435	2.64	2.07	7.81	2.26	.1						

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OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(10^3)	(dyn/cm)
NM 65 44 39.3 N 124 35.3 W DATE 10 AUG 69 0444 OCT WIRE 00 DRY 62.3 WET 60.0 CRUISE Y6908A													
WIND DIRECTION 32 VEL 04 KTS BAR 20 SWELL DIRECTION 30 M 02 T 05 CLOUD 6 AMT 7 WEATHER 02													
0	17.18	31.015	5.74	.40	8.27	2.15	.1	0	17.19	31.02	22.45	540.7	.0
3	17.18	31.011	5.84	.40	8.27	2.15	.1	10	16.34	31.38	22.91	444.4	.152
6	16.40	31.273	5.94	.41	8.28	2.15	.1	20	13.66	32.40	24.27	347.1	.195
10	16.34	31.373	5.94	.40	8.27	2.17	.1	30	11.23	32.44	24.77	320.3	.124
20	13.66	32.333	6.54	.60	8.25	2.19	.1	50	8.75	32.45	24.19	240.3	.144
30	11.23	32.431	7.07	.64	8.25	2.19	.1	75	7.93	32.57	24.40	250.0	.147
40	9.35	32.423	7.21	.66	8.26	2.19	.1	100	7.74	32.11	24.45	217.0	.117
50	8.75	32.445	6.94	.77	8.24	2.19	.5	150	7.69	31.04	26.44	143.0	.117
62	8.20	32.449	6.44	.92	8.21	2.19	4.2	200	7.31	31.96	26.49	144.5	.123
74	7.42	32.543	6.07	1.07	8.18	2.19	6.0	250	6.93	34.01	26.49	141.7	.103
100	7.75	33.102	5.02	1.54	8.06	2.23	14.7	300	6.54	34.03	26.74	135.0	.132
150	7.49	33.417	3.33	2.17	7.91	2.26	25.6	400	5.84	34.07	26.46	124.7	.143
200	7.30	33.449	2.31	2.55	7.81	2.28	29.7	500	5.24	34.13	26.68	114.0	.143
300	6.53	34.073	1.45	2.78	7.76	2.30	33.2	600	4.74	34.21	27.11	103.5	.191
400	5.44	34.041	1.39	3.03	7.70	2.31	36.7	700	4.42	34.28	27.20	94.2	1.141
400	4.75	34.223	.54	3.34	7.64	2.34	41.4	800	4.16	34.35	27.24	87.3	1.147
402	4.15	34.343	.34	3.39	7.65	2.36	41.4	1000	3.67	34.42	27.34	77.4	1.145
1000	3.59	34.414	.39	3.51	7.66	2.39	43.2	1200	3.20	34.47	27.47	70.9	1.146
1200	3.20	34.465	.44		7.68	2.40							

NM 85 44 36.6 N 124 03.1 W DATE 10 AUG 69 1419 OCT WIRE 04 DRY 63.5 WET 58.9 CRUISE Y6908A													
WIND DIRECTION 35 VEL 07 KTS BAR 20 SWELL DIRECTION 32 M 04 T 07 CLOUD 6 AMT 7 WEATHER 03													
0	17.11	31.464	5.72	.35	8.26	2.15	.1	0	17.11	31.47	22.81	504.6	.0
3	17.11	31.511	5.71	.42	8.25	2.17	.3	10	16.85	31.90	23.20	444.3	.144
6	16.86	31.799	5.74	.44	8.24	2.17	.3	20	16.71	32.10	23.39	451.4	.195
10	16.85	31.897	5.77	.44	8.25	2.17	.3	30	14.05	32.31	24.13	341.0	.134
20	16.71	32.097	5.79	.51	8.23	2.19	.3	50	9.53	32.45	25.05	242.1	.104
30	14.05	32.310	6.16	.64	8.24	2.19	.3	75	8.53	32.55	25.30	270.1	.174
40	11.24	32.432	7.13	.57	8.27	2.19	.2	100	8.49	32.97	24.6	274.4	.134
50	9.53	32.443	7.22	.61	8.28	2.19	1.7	150	7.99	33.64	24.27	174.8	.142
62	8.87	32.434	6.67	.81	8.22	2.19	5.5	200	7.73	33.94	24.50	157.4	.144
74	8.53	32.544	6.27	.94	8.18	2.19	23.0	250	7.04	33.95	24.42	147.3	.142
100	8.49	32.969	5.21	1.45	8.09	2.21	25.9	300	6.29	33.98	24.74	114.0	.173
150	7.99	33.684	3.73	2.01	7.95	2.26	26.4	400	5.56	34.07	24.90	122.1	.102
200	7.73	33.931	2.04	2.15	7.87	2.28	40.5	500	5.06	34.13	27.01	111.7	.114
300	6.28	33.973	2.29		7.80	2.31		600	4.72	34.20	27.10	104.1	1.127
400	5.55	34.041	1.27	3.09	7.71	2.33	44.2	700	4.46	34.26	27.17	97.4	1.127
600	4.72	34.194	.63	3.32	7.64	2.36	44.7	800	4.23	34.32	27.25	91.1	1.122
799	4.23	34.315	.34	3.47	7.65	2.37	44.8	1000	3.62	34.41	27.35	79.0	1.192
999	3.62	34.404	.38	3.45	7.65	2.40	44.2	1200	3.11	34.48	27.48	69.0	1.140
1199	3.11	34.476	.50	3.35	7.68	2.41							

NM 105 44 39.1 N 124 31.2 W DATE 10 AUG 69 1741 OCT WIRE 00 DRY 61.9 WET 59.0 CRUISE Y6908A													
WIND DIRECTION 35 VEL 10 KTS BAR 21 SWELL DIRECTION 31 M 04 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	17.15	31.784	5.76	.36	8.23	2.19	.1	0	17.15	31.79	23.05	481.9	.0
3	17.17	31.794	5.81	.35	8.22	2.23	.1	10	17.19	31.84	23.09	480.9	.144
6	17.16	31.783	5.87	.34	8.22	2.25	.1	20	16.63	32.04	23.35	454.7	.195
10	17.14	31.833	5.79	.52	8.22	2.25	.1	30	14.15	32.40	24.18	374.4	.137
20	14.63	32.040	5.84	.52	8.21	2.25	.1	50	9.76	32.47	24.05	293.8	.104
30	14.15	32.400	6.44		8.20	2.25	.1	75	8.16	32.49	25.31	259.1	.174
40	11.15	32.462	7.10	.58	8.24	2.25	.1	100	7.94	32.45	25.70	232.4	.137
50	9.76	32.469	7.18	.54	8.24	2.23	.1	150	8.31	33.79	26.31	174.4	.139
62	8.77	32.472	6.49	.67	8.20	2.28	.4	200	7.67	33.92	26.40	157.9	.122
74	8.16	32.485	6.44	.87	8.17	2.26	2.9	250	7.11	33.97	26.42	147.1	.144
100	7.94	32.942	5.35	2.18	8.06	2.26	15.9	300	6.41	34.00	26.71	119.0	.170
150	8.31	33.790	3.34		7.88	2.31		400	5.60	34.03	26.88	125.5	.102
200	7.64	33.913	3.16	2.15	7.85	2.31	27.1	500	5.07	34.13	27.00	112.2	.121
300	6.61	33.994	2.39	2.39	7.77	2.31	31.4	600	4.78	34.25	27.13	101.2	1.127
400	5.60	34.024	1.71	2.73	7.69	2.40	36.2	700	4.45	34.30	27.21	94.1	1.125
600	4.77	34.243	.39		7.60	2.41		800	4.18	34.35	27.28	84.1	1.116
800	4.17	34.343	.19		7.61	2.41		1000	3.59	34.42	27.39	77.6	1.141
1000	3.59	34.421	.32		7.62	2.43							

NM 125 44 39.8 N 124 58.9 W DATE 10 AUG 69 2143 OCT WIRE 04 DRY 63.2 WET 60.2 CRUISE Y6908A													
WIND DIRECTION 32 VEL 10 KTS BAR 21 SWELL DIRECTION 32 M 03 T 10 CLOUD 6 AMT 7 WEATHER 02													
0	17.38	31.740	5.82	.49	8.23	2.15	.7	0	17.38	31.34	22.65	571.5	.0
2	17.36	31.354	5.84	.44			.8	10	16.78	31.94	23.25	444.8	.149
6	17.37	31.735	5.83	.53	8.23	2.15	.4	20	15.32	32.21	23.74	414.5	.193
10	14.74	31.937	5.94	.49	8.20	2.17	.1	30	12.36	32.43	24.55	340.8	.131
20	15.32	32.201	6.24	.59	8.21	2.19	.9	50	9.70	32.51	25.08	290.2	.194
29	12.63	32.417	6.75	.65	8.22	2.19	.7	75	8.61	32.62	25.34	244.4	.144
39	10.47	32.470	7.10	.64	8.24	2.19	.3	100	8.87	33.17	24.73	229.4	.126
49	9.74	32.509	7.14	.71	8.24	2.19		150	8.41	33.75	24.74	180.3	.128
61	9.33	32.523	6.86	.86	8.21	2.19	1.9	200	7.88	33.89	26.48	154.0	.113
73	8.59	32.545	6.14	.92	8.16	2.19	4.2	250	7.14	33.94	26.42	147.0	.140
98	8.87	33.131	5.00	1.54	8.03	2.23	12.5	300	6.45	34.01	26.72	134.4	.141
147	8.45	33.733	3.47	2.25	7.91	2.26	20.1	400	5.84	34.04	26.87	124.1	.193
194	7.73	33.884	3.24	2.38	7.87	2.26	22.4	500	5.11	34.12	26.99	113.2	.112
293	6.73	34.012	2.14	2.71	7.77	2.30	22.4	600	4.76	34.21	27.10	104.2	1.120
391	5.72	34.037	1.64	3.04			33.5	700	4.41	34.27	27.14	94.2	1.121
587	4.81	34.197	.44	3.22	7.62	2.34		800	4.11	34.32	27.24	84.4	1.113
782	4.14	34.310	.32		7.59	2.34	41.2	1000	3.61	34.41	27.39	74.3	1.141
974	3.64	34.405	.35	3.35	7.61	2.37		1200	3.12	34.44	27.48	69.2	1.144
1173	3.19	34.464	.50		7.62	2.40							

OBSERVED

D	T	S	O ₂	PO ₄	PH	ALK.	NO ₃
(m)	(°C)	(‰)	(ml/l)	(μM)	(meq/l)	(μM)	
NM 144 44 39.3 N 127 27.0 W DATE 11 AUG 69 0127 OCT WIRE 00 DRY 44.3 WET 40.9 CRUISE YAGORA							
WIND DIRECTION 32 VEL 11 KTS BAR 21 SWELL DIRECTION 12 H 04 T 06 CLUD 4 AMT 3 WEATHER 02							
0	17.94	30.447	8.84	.43	8.22	2.11	.1
3	17.95	30.447	8.75	.44	8.22	2.14	.1
6	17.46	30.448	8.78	.40	8.22	2.14	.1
10	17.46	30.455	8.74	.36	8.22	2.14	.1
20	17.24	31.190	8.88		8.22	2.14	.1
30	16.25	32.224	6.08	.49	8.20	2.17	.1
40	15.04	32.476	4.16	.58	8.20	2.19	.1
50	11.27	32.461	7.06	.53	8.23	2.19	.1
62	9.04	32.479	7.26	.58	8.24	2.19	.1
75	8.42	32.489	8.44	.99	8.18	2.19	.1
100	7.35	32.581	8.44	1.18	8.15	2.19	4.6
150	8.15	33.593	7.96	1.91	7.94	2.25	9.7
200	7.71	33.914	7.04		7.85	2.26	24.7
300	6.34	33.997	2.10	2.42	7.75	2.28	29.5
400	5.50	34.031	1.56	2.98	7.78	2.30	37.4
600	4.68	34.227	.60	3.90	7.88	2.30	41.4
800	4.07	34.333	.31	3.31	7.82	2.33	46.2
1000	3.57	34.423	.47	3.32	7.62	2.37	47.5
1200	3.12	34.472	.50	3.21	7.64	2.41	47.8

INTERPOLATED

DERIVED

Z	T	S	σ _t	8	ΔD
(m)	(°C)	(‰)		(10 ³)	(dyn/m)
NM 144 44 39.3 N 127 27.0 W DATE 11 AUG 69 0127 OCT WIRE 00 DRY 44.3 WET 40.9 CRUISE YAGORA					
WIND DIRECTION 32 VEL 11 KTS BAR 21 SWELL DIRECTION 12 H 04 T 06 CLUD 4 AMT 3 WEATHER 02					
0	17.94	30.85	22.14	570.1	0
10	17.84	30.84	22.17	484.0	.087
20	17.25	31.19	22.56	530.5	.112
30	16.25	32.23	27.54	332.8	.180
40	11.27	32.47	24.78	319.1	.235
50	8.42	32.49	25.27	272.4	.304
75	7.35	32.59	24.90	241.2	.374
100	8.15	33.60	26.14	187.8	.484
150	7.71	33.92	26.49	154.5	.471
200	7.03	33.96	26.82	147.2	.447
300	6.34	34.00	26.75	135.4	.418
400	5.51	34.04	26.88	121.7	.47
500	5.01	34.12	27.01	111.6	.505
600	4.69	34.23	27.13	101.3	.571
700	4.35	34.29	27.21	94.0	.589
800	4.07	34.34	27.28	87.7	.580
1000	3.58	34.43	27.40	76.9	.544
1200	3.12	34.47	27.48	69.5	.571

NM 164 44 39.2 N 127 55.0 W DATE 11 AUG 69 0449 OCT WIRE 00 DRY 62.0 WET 59.2 CRUISE YAGORA
WIND DIRECTION 33 VEL 10 KTS BAR 20 SWELL DIRECTION 11 H 04 T 07 CLUD 8 AMT 6 WEATHER 02

D	T	S	O ₂	PO ₄	PH	ALK.	NO ₃
(m)	(°C)	(‰)	(ml/l)	(μM)	(meq/l)	(μM)	
NM 164 44 39.2 N 127 55.0 W DATE 11 AUG 69 0449 OCT WIRE 00 DRY 62.0 WET 59.2 CRUISE YAGORA							
WIND DIRECTION 33 VEL 10 KTS BAR 20 SWELL DIRECTION 11 H 04 T 07 CLUD 8 AMT 6 WEATHER 02							
0	17.38	32.007		.21	2.25	.1	
3	17.25	32.032	5.68		8.21	2.25	.1
6	16.74	32.317	4.74		8.20	2.25	.1
10	16.57	32.281	4.76		8.21	2.25	.1
20	16.02	32.394	8.84		8.21	2.25	.1
30	13.87	32.429	8.39		8.23	2.25	1.9
40	11.32	32.442	8.97		8.26	2.25	1.9
50	9.47	32.475	7.32		8.26	2.25	1.9
62	8.61	32.477	6.99		8.24	2.25	1.5
75	7.98	32.517	6.50		8.20	2.25	7.8
100	7.51	32.713	5.83		8.15	2.25	9.1
150	7.27	33.528	4.59		8.01	2.30	19.3
200	7.22	33.894	3.18		7.88	2.33	
300	5.90	33.957	2.27		7.78	2.33	34.3
400	4.82	33.978	1.71		7.71	2.36	37.0
600	4.34	34.162	.61		7.63	2.39	
800	4.03	34.336	.39		7.41	2.41	40.5
1000	3.51	34.416	.45		7.66	2.43	41.5
1200	3.11	34.470	.51		7.69	2.43	34.4

D	T	S	O ₂	PO ₄	PH	ALK.	NO ₃
(m)	(°C)	(‰)	(ml/l)	(μM)	(meq/l)	(μM)	
NM 164 44 39.2 N 127 55.0 W DATE 11 AUG 69 0449 OCT WIRE 00 DRY 62.0 WET 59.2 CRUISE YAGORA							
WIND DIRECTION 33 VEL 10 KTS BAR 20 SWELL DIRECTION 11 H 04 T 07 CLUD 8 AMT 6 WEATHER 02							
0	17.38	32.01			23.16	472.8	0
10	16.57	32.29			23.56	434.1	.085
20	16.02	32.40			23.77	414.9	.088
30	13.88	32.43			24.26	368.0	.127
40	11.32	32.44			25.10	288.8	.193
50	9.47	32.47			25.56	264.3	.242
75	7.98	32.52			25.58	247.6	.255
100	7.52	32.72			26.25	180.6	.431
150	7.28	33.53			26.55	153.1	.415
200	6.65	33.93			26.65	144.2	.489
300	5.91	33.96			26.77	132.7	.458
400	4.82	33.98			26.92	119.6	.484
500	4.43	34.07			27.03	109.0	.499
600	4.34	34.19			27.13	107.7	.503
700	4.19	34.27			27.21	93.4	.5100
800	4.04	34.34			27.29	87.0	.5191
1000	3.52	34.42			27.40	76.8	.5184
1200	3.11	34.47			27.48	69.5	.5400

A 214 44 08.3 N 127 00.0 W DATE 11 AUG 69 1520 OCT WIRE 01 DRY 62.6 WET 57.6 CRUISE YAGORA
WIND DIRECTION 34 VEL 12 KTS BAR 21 SWELL DIRECTION 11 H 03 T 07 CLUD 6 AMT 5 WEATHER 02

D	T	S	O ₂	PO ₄	PH	ALK.	NO ₃
(m)	(°C)	(‰)	(ml/l)	(μM)	(meq/l)	(μM)	
A 214 44 08.3 N 127 00.0 W DATE 11 AUG 69 1520 OCT WIRE 01 DRY 62.6 WET 57.6 CRUISE YAGORA							
WIND DIRECTION 34 VEL 12 KTS BAR 21 SWELL DIRECTION 11 H 03 T 07 CLUD 6 AMT 5 WEATHER 02							
0	17.45	31.151		.40	8.23	2.17	.1
3	17.45	31.146		.40	8.23	2.17	.1
6	17.46	31.147		.39	8.23	2.17	.1
10	17.28	31.338		.39	8.23	2.19	.1
20	16.54	31.446			8.22	2.17	.1
30	13.13	32.402		.50	8.23	2.21	.1
40	10.28	32.500		.59	8.24	2.23	.1
50	9.84	32.534			8.23	2.25	
62	9.44	32.547		.65	8.20	2.23	1.0
75	8.53	32.487		.76	8.18	2.23	3.1
100	8.53	32.462			8.09	2.26	
150	8.32	33.730		2.00	7.92	2.31	25.4
200	7.27	33.882		2.14	7.88	2.30	26.7

C 222 44 07.5 N 124 18.6 W DATE 11 AUG 69 2012 OCT WIRE 00 DRY 61.1 WET 56.6 CRUISE YAGORA
WIND DIRECTION 33 VEL 12 KTS BAR 22 SWELL DIRECTION 12 H 03 T 10 CLUD 4 AMT 7 WEATHER 02

D	T	S	O ₂	PO ₄	PH	ALK.	NO ₃
(m)	(°C)	(‰)	(ml/l)	(μM)	(meq/l)	(μM)	
C 222 44 07.5 N 124 18.6 W DATE 11 AUG 69 2012 OCT WIRE 00 DRY 61.1 WET 56.6 CRUISE YAGORA							
WIND DIRECTION 33 VEL 12 KTS BAR 22 SWELL DIRECTION 12 H 03 T 10 CLUD 4 AMT 7 WEATHER 02							
0	16.92	31.544	5.95	.36	8.24	2.21	.1
3	16.97	31.542	5.86	.36	8.23	2.21	.1
6	16.88	31.541	4.91	.34	8.24	2.21	.1
10	15.04	31.612	4.31	.40			.1
20	11.08	32.388	4.97	.58	8.22	2.23	.1
30	9.07	32.467	4.86	.71	8.20	2.25	1.4
40	8.45	32.475	4.51	.83	8.16	2.23	4.4
50	8.12	32.526	4.24	.94	8.14	2.25	6.3
62	7.99	32.649	4.73	1.07	8.10	2.25	8.7
75	8.10	33.114	4.88	1.41	8.01	2.24	15.4
100	8.26	33.555	3.81	1.79	7.92	2.27	21.0
150	7.75	33.887	2.90	2.07	7.93	2.33	25.4
200	7.21	33.962	2.54	2.04	7.79	2.33	25.4

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
A 224 44 08.1 N 124 36.7 W DATE 12 AUG 69 0031 GCT WIRE 00 DRY 61.8 WET 54.0 CRUISE Y6909A													
WIND DIRECTION 33 VEL 10 KTS BAR 22 SWELL DIRECTION 32 H 04 T 06 CLOUD 4 AMT 5 WEATHER 02													
0	15.27	32.281	4.24	.50	8.22	2.21	.1	0	15.27	32.29	23.85	407.1	0
3	15.08	32.2	4.37	.44	8.22	2.19	.1	10	13.13	32.38	24.37	354.7	.174
6	13.48	32.366	4.91	.44	8.23	2.21	.1	20	10.50	32.48	24.93	304.4	.171
10	13.13	32.377	7.00	.50	8.25	2.21	.1	30	9.35	32.53	25.16	282.7	.101
20	10.50	32.477	7.20	.67	8.22	2.21	1.2	50	8.50	32.66	25.39	260.8	.155
30	9.35	32.524	4.58	.85	8.16	2.21	4.9	75	8.46	33.11	25.75	227.4	.216
40	8.51	32.523	4.18	.92	8.14	2.21	7.4	100	8.35	33.63	26.17	187.4	.268
50	8.50	32.654	4.83	1.14	8.10	2.21	10.6	150	7.84	33.88	26.44	152.4	.355
62	8.33	32.853	4.48		8.08	2.23	13.5	200	7.24	33.96	26.59	149.8	.433
75	8.46	33.102	4.92	1.46	8.02	2.23	16.9						
100	8.35	33.627	3.63	1.88	7.92	2.26	25.5						
150	7.84	33.876	2.96	2.13	7.85	2.28	30.1						
200	7.24	33.961	2.56	2.35	7.81	2.30	33.5						

C 232 44 08.9 N 124 09.2 W DATE 12 AUG 69 0449 GCT WIRE 00 DRY 60.0 WET 57.1 CRUISE Y6909A													
WIND DIRECTION 00 VEL 07 KTS BAR 20 SWELL DIRECTION 33 H 03 T 07 CLOUD 4 AMT 2 WEATHER 01													
0	15.28	31.806	4.51		8.30	2.23		0	15.28	31.81	23.48	442.1	0
3	14.73	32.011	4.89		8.27	2.25	.1	10	12.23	32.28	24.46	348.9	.140
6	13.12	32.196	7.18	.33	8.27	2.25	.1	20	9.25	32.44	25.12	284.4	.171
10	12.23	32.275	7.35	.39	8.26	2.25	5.4	30	8.29	32.47	25.28	271.4	.199
20	9.25	32.454	4.48	.55	8.16	2.23	9.5	50	7.63	32.56	25.44	254.0	.152
30	8.29	32.470	4.33	1.13	8.17	2.23	10.3	75	8.02	33.24	25.92	211.1	.210
40	7.46	32.495	4.30	1.19	8.14	2.25	12.2	100	8.10	33.67	26.24	180.0	.259
50	7.62	32.557	4.06	1.15	8.12	2.23	20.6	150	7.64	33.91	26.50	157.4	.344
62	7.77	32.994	4.88	1.41	8.02	2.26	25.6	200	6.88	34.00	26.68	140.8	.418
75	8.02	33.237	4.23	1.54	7.95	2.28	25.6						
100	8.10	33.665	3.10	1.74	7.86	2.30	29.2						
150	7.63	33.903	2.84		7.83	2.31							
200	6.88	34.004	2.04	2.02	7.77	2.33							

NM 15 44 39.1 N 124 24.5 W DATE 12 AUG 69 1312 GCT WIRE 00 DRY 58.5 WET 56.2 CRUISE Y6909A													
WIND DIRECTION 18 VEL 04 KTS BAR 21 SWELL DIRECTION 30 H 04 T 06 CLOUD 6 AMT 4 WEATHER 03													
0	14.01	31.700	7.42	.26	8.32	2.21	.1	0	14.01	31.71	23.67	424.4	0
3	14.26	31.664	7.42		8.32	2.21	.1	10	9.55	32.48	25.09	289.2	.176
6	10.58	32.411	7.52	.44	8.25	2.21	.4	20	7.68	32.56	25.43	254.7	.143
10	9.55	32.479	7.23	.66	8.21	2.21	2.9	30	7.60	32.45	25.36	263.6	.189
20	7.67	32.552	5.30	1.44	8.05	2.21	15.2	50	7.60	33.24	25.98	205.2	.136
30	7.60	32.449	5.36	1.68	7.98	2.21	20.4						
40	7.56	32.957	5.01		8.02	2.23							
50	7.60	33.236	4.17	1.82	7.96	2.25	23.3						

OB 20 44 56.4 N 124 31.2 W DATE 12 AUG 69 1632 GCT WIRE 00 DRY 59.2 WET 57.0 CRUISE Y6909A													
WIND DIRECTION 17 VEL 12 KTS BAR 20 SWELL DIRECTION 30 H 03 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	15.37	32.152	6.46	.18	8.32	2.23	.1	0	15.38	32.16	23.73	418.4	0
3	15.34	32.154	6.46	.20	8.32	2.23	.1	10	13.08	32.30	24.31	363.0	.139
6	14.40	32.306	4.98	.35	8.26	2.23	.1	20	8.64	32.44	25.20	278.4	.171
10	13.08	32.296	4.98	.34	8.28	2.23	.1	30	7.94	32.47	25.32	267.0	.188
20	8.64	32.440	7.12	.71	8.22	2.23	1.8	50	7.57	32.81	25.64	234.0	.149
30	7.94	32.465	6.59	.97	8.18	2.23	4.7	75	8.05	33.41	26.05	194.0	.203
40	7.55	32.575	6.11	1.02	8.13	2.23	10.5	100	7.93	33.74	26.32	173.5	.250
50	7.56	32.803	5.56		8.08	2.25	14.7	150	7.31	33.91	26.55	152.5	.331
62	7.89	33.147	4.73		8.01	2.26	19.5	200	6.64	33.97	26.69	140.4	.405
75	8.05	33.408	4.06	1.62	7.96	2.28	23.5						
100	7.92	33.732	3.33	1.94	7.88	2.30	28.5						
150	7.30	33.908	2.92	2.05	7.84	2.31	32.3						
200	6.64	33.966	2.51	2.37	7.79	2.31	35.5						

OB 15 44 53.9 N 124 23.5 W DATE 17 AUG 69 1809 GCT WIRE 00 DRY 61.0 WET 56.2 CRUISE Y6909A													
WIND DIRECTION 17 VEL 12 KTS BAR 20 SWELL DIRECTION 30 H 03 T 07 CLOUD 6 AMT 3 WEATHER 02													
0	15.42	31.444	6.81	.14	8.36	2.21		0	15.42	31.45	23.18	471.4	0
3	15.39	31.445	6.73	.17	8.36	2.19		10	12.22	32.22	24.42	353.0	.141
6	14.43	31.437	7.19	.14	8.34	2.21		20	8.30	32.46	25.26	272.8	.173
10	12.22	32.217	7.53	.33	8.30	2.19		30	7.44	32.30	25.39	260.8	.149
20	8.30	32.451	4.54	.82	8.17	2.19	4.3	50	7.55	33.02	25.81	221.0	.147
30	7.63	32.492	4.29	1.02	8.14	2.19	8.6	75	7.85	33.50	26.14	189.9	.199
40	7.58	32.740	5.54	1.23	8.08	2.21	13.7	100	7.76	33.79	26.39	168.8	.243
50	7.54	33.013	5.04	1.48	8.03	2.23	17.3	150	7.29	33.96	26.59	148.4	.322
62	7.71	33.222	4.64	1.52	7.99	2.25	22.5						
75	7.45	33.422	3.92		7.94	2.26	26.4						
100	7.75	33.730	2.94	2.12	7.84	2.28	33.3						
150	7.29	33.965	1.70	2.40	7.72	2.31	36.7						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	ALK	NO ₃	Z	T	S	σ _t	θ	Δσ
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(°10°)	(dyn/cm)
C 24A	44 52.4 N	124 17.7 W	DATE 12 AUG 69 1913 1CT	WIRE 00	DRY 43.1	WET 57.2	CRUISE Y669RA						
WIND DIRECTION 19 VEL 74 KTS			BAR 20 SWELL DIRECTION 10 M 03 T 10 CLOUD 6 AMT	5 WEATHER 07									
0	15.10	31.577	4.93	.21	8.76	2.23	.1	0	15.10	31.58	23.35	455.2	0
3	13.45	31.454	7.44	.24	8.72	2.25	.2	10	8.78	32.42	25.16	287.7	.137
6	11.49	32.092	7.43	.41	8.28	2.23	7.8	20	7.77	32.64	25.35	243.4	.144
10	8.78	32.410	4.94	1.02	8.10	2.23	8.2	30	7.56	32.79	25.47	237.4	.149
20	7.76	32.474	4.06	1.08	8.11	2.21	9.3	50	7.47	32.25	26.01	202.4	.133
30	7.55	32.748	5.00	1.57	8.01	2.23	18.5	75	7.72	32.72	26.33	171.9	.180
40	7.47	32.115	4.84	1.64	7.99	2.25	21.1	100	7.35	33.89	26.52	154.0	.221
50	7.47	33.250	4.35		7.48	2.26	23.9						
60	7.40	33.521	3.41		7.48	2.31	27.7						
74	7.72	33.711	2.82		7.41	2.30	30.8						
100	7.35	33.887	1.00	2.18	7.44	2.31	32.9						
C 24A	44 50.9 N	124 11.4 W	DATE 12 AUG 69 2115 1CT	WIRE 01	DRY 64.0	WET 58.4	CRUISE Y669RA						
WIND DIRECTION 21 VEL 04 KTS			BAR 20 SWELL DIRECTION 10 M 03 T 10 CLOUD 6 AMT	5 WEATHER 07									
0	13.49	31.744	7.23		8.32	2.23	.1	0	13.49	31.79	23.84	408.2	0
3	12.00	32.164	7.67	.36	8.27	2.23	1.1	10	8.75	32.57	25.34	264.0	.034
6	10.49	32.328	7.79	.40	8.28	2.25	1.1	20	8.10	32.06	25.78	229.4	.058
10	8.35	32.466	4.51		7.95	2.23		30	7.61	32.21	25.95	207.4	.080
20	7.10	33.352	3.14		7.83	2.25		50	7.61	32.74	26.16	144.5	.117
30	7.41	33.204	1.42	1.34	7.87	2.25	23.2	75	7.15	32.93	26.58	144.1	.157
40	7.64	33.493	2.80	1.49	7.82	2.26	27.3						
50	7.61	33.731	2.51	1.51	7.40	2.28	27.2						
60	7.39	33.479	2.06	1.65	7.75	2.28	30.0						
75	7.14	33.922	2.03	1.64	7.75	2.30	30.1						
C 247	44 48.5 N	124 05.7 W	DATE 12 AUG 69 2244 1CT	WIRE 00	DRY	WET	CRUISE Y669RA						
WIND DIRECTION 24 VEL 04 KTS			BAR 20 SWELL DIRECTION 10 M 03 T 10 CLOUD 6 AMT	4 WEATHER 07									
0	10.40	32.669	7.27		8.27	2.26		0	10.40	32.67	25.03	294.9	0
3	9.48	33.181	4.03	1.24	8.02	2.26	19.0	10	9.71	32.39	25.77	226.4	.026
6	8.75	33.254	4.70		8.00	2.26		20	8.18	32.83	26.35	169.1	.046
10	9.71	33.387	4.96	1.69	7.94	2.28	22.8	30	7.47	32.89	26.50	154.9	.062
20	4.18	33.825	1.23	1.89	7.83	2.30	29.1						
30	7.47	33.885		1.86	7.76	2.30	29.2						
NM 3	44 39.2 N	124 07.4 W	DATE 13 AUG 69 0011 1CT	WIRE 01	DRY	WET	CRUISE Y669RA						
WIND DIRECTION 35 VEL 10 KTS			BAR 18 SWELL DIRECTION 10 M 04 T 10 CLOUD 6 AMT	2 WEATHER 07									
0	11.00	33.714	4.22					0	11.00	33.72	25.41	220.4	0
3	10.04	33.733	4.11					10	8.24	33.76	26.28	175.4	.020
6	9.50	33.745	4.51					20	7.43	33.84	26.50	145.0	.036
10	8.24	33.755	3.24										
20	7.42	33.472	2.34										
NM 14	44 39.1 N	124 24.7 W	DATE 02 AUG 69 1515 1CT	WIRE 00	DRY 50.7	WET 50.7	CRUISE C669RA						
WIND DIRECTION 35 VEL 4 KTS			BAR 22 SWELL DIRECTION 13 M 03 T 07 CLOUD 7 AMT	4 WEATHER 04									
0	10.12	32.404	4.27	1.23		9.5		0	10.13	32.41	24.94	309.2	0
3	8.44	32.449	4.14	1.14		9.5		10	8.77	32.45	25.12	279.4	.024
6	7.44	32.427	4.44	1.14		11.7		20	7.45	32.55	25.65	254.7	.056
10	4.44	33.114	4.47	1.77		23.4		30	7.41	32.75	25.96	244.3	.081
74	7.59	33.741	2.76	2.14		31.4		50	8.92	32.26	25.79	222.7	.121
SUP 2	44 42.0 N	124 20.9 W	DATE 02 AUG 69 1635 1CT	WIRE 00	DRY 54.2	WET 43.3	CRUISE C669RA						
WIND DIRECTION 00 VEL 04 KTS			BAR 22 SWELL DIRECTION 11 M 04 T 06 CLOUD 6 AMT	2 WEATHER 01									
0	9.57	32.445	4.49	1.33		12.1		0	9.47	32.59	25.17	281.4	0
3	7.73	32.443	4.47	1.21		11.1		10	7.42	32.35	25.27	271.5	.024
6	7.14	32.774	4.13	1.25		14.5		20	7.37	32.52	25.42	246.4	.054
9	7.43	33.443	3.00	2.06		28.6		30	7.43	32.96	25.78	227.7	.077
74	7.44	33.435	2.41	2.37		32.4		50	7.43	32.80	26.22	181.4	.119
								75	7.60	32.83	26.44	182.7	.161
SUP 3	44 43.4 N	124 24.5 W	DATE 02 AUG 69 1735 1CT	WIRE 00	DRY 56.5	WET 54.3	CRUISE C669RA						
WIND DIRECTION 01 VEL 04 KTS			BAR 22 SWELL DIRECTION 11 M 04 T 06 CLOUD 6 AMT	3 WEATHER 01									
0	10.36	32.332	4.52	1.00		7.4		0	10.36	32.34	24.44	312.7	0
3	8.46	32.345	4.22			7.4		10	9.44	32.35	25.00	298.1	.031
6	7.41	32.457	4.99	1.25		11.2		20	8.40	32.41	25.21	277.4	.059
9	7.42	33.087	4.77	1.52		17.7		30	7.49	32.56	25.40	254.6	.086
74	7.47	33.690	2.27	2.01		24.1		50	7.42	32.94	25.83	219.1	.134
								75	7.46	32.67	26.25	178.7	.184
SUP 4	44 45.2 N	124 38.4 W	DATE 02 AUG 69 1834 1CT	WIRE 00	DRY 60.6	WET 57.1	CRUISE C669RA						
WIND DIRECTION 01 VEL 04 KTS			BAR 23 SWELL DIRECTION 11 M 04 T 06 CLOUD 6 AMT	4 WEATHER 02									
0	12.52	31.432	4.92	.67		.9		0	12.52	31.44	24.06	386.6	0
3	11.26	32.186	4.85	.89		2.1		10	12.01	32.08	24.18	375.8	.038
6	8.17	32.444	4.61	.92		3.3		20	9.72	32.32	24.93	304.2	.072
9	7.71	32.859	4.25	1.27		14.4		30	8.08	32.54	25.36	243.8	.100
75	7.44	33.279	4.20	1.73		22.4		50	7.71	32.86	25.47	234.8	.150
125	7.04	33.939	2.18	2.53		34.4		75	7.44	33.28	25.94	205.4	.208
								100	7.47	33.44	26.29	176.4	.254

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)

SUF 5 44 46.6 N 124 25.0 W DATE 02 AUG 69 1945 RCT WIRE 05 DRY 62.8 WET 58.3 CRUISE C6908A
WIND DIRECTION 32 VEL 05 KTS BAR 23 SWELL DIRECTION 71 H 04 T 10 CLUD 6 AMT 1 WEATHER 02

0	11.40	32.129	7.00	1.02			5.1
15	10.89	32.225	6.83	1.00			5.1
25	8.05	32.445	6.70				

SUF 6 44 48.0 N 124 20.5 W DATE 02 AUG 69 2045 RCT WIRE 00 DRY 63.2 WET 58.7 CRUISE C6908A
WIND DIRECTION 30 VEL 05 KTS BAR 22 SWELL DIRECTION 72 H 04 T 10 CLUD 6 AMT 1 WEATHER 02

0	11.35	32.269	6.91	1.21			10.5
15	10.50	32.529	6.99	1.44			13.0
25	7.99	32.498	6.84				
67	7.58	33.014	6.92	1.52			17.4
85	7.42	33.659	7.58	1.92			22.6
110	7.10	33.935	1.94	2.69			31.9

0	11.35	32.27	24.62	337.4	0
10	11.76	32.54	24.76	320.9	.033
20	9.28	32.52	25.16	242.4	.063
30	7.93	32.53	25.17	262.4	.090
50	7.70	32.79	25.61	234.7	.140
75	7.42	33.41	26.08	194.0	.195
100	7.57	33.87	26.48	158.7	.239

SUF 7 44 51.1 N 124 11.8 W DATE 02 AUG 69 2220 RCT WIRE 00 DRY 62.8 WET 58.6 CRUISE C6908A
WIND DIRECTION 29 VEL 10 KTS BAR 22 SWELL DIRECTION 72 H 04 T 05 CLUD 6 AMT 2 WEATHER 01

0	11.76	32.281	7.16	.74			4.6
15	8.17	32.491	6.13	1.55			13.0
25	8.17	32.843	3.45	.62			19.9
50	7.71	33.738	2.75	.99			26.1
75				2.35			28.4

0	11.76	32.29	24.55	340.0	0
10	8.17	32.30	25.16	292.5	.031
20	8.17	32.65	25.43	254.6	.058
30	8.13	33.02	25.73	228.4	.082
50	7.71	33.74	26.36	169.4	.122

SUF 8 44 54.2 N 124 20.2 W DATE 03 AUG 69 0025 RCT WIRE 00 DRY 62.8 WET 58.8 CRUISE C6908A
WIND DIRECTION 34 VEL 04 KTS BAR 22 SWELL DIRECTION 71 H 04 T 07 CLUD 0 AMT 2 WEATHER 01

0	13.45	31.859	7.20	.37			1.9
25	7.53	32.496	6.15	1.22			9.6
50	7.74	33.219	4.43	1.73			19.7
75	7.87	33.699	3.42	1.91			25.9
100	7.59	33.854	2.80	2.12			29.7
125	7.24	33.922	2.33	2.32			32.5

0	13.45	31.87	23.91	401.2	0
10	7.38	32.05	25.07	290.5	.035
20	7.48	32.35	25.29	264.7	.063
30	7.58	32.65	25.52	244.5	.088
50	7.79	33.24	25.95	207.4	.134
75	7.88	33.70	26.30	174.8	.182
100	7.59	33.86	26.47	159.6	.224

SUF 9 44 57.0 N 124 28.9 W DATE 03 AUG 69 0140 RCT WIRE 00 DRY 62.8 WET 58.1 CRUISE C6908A
WIND DIRECTION 00 VEL 10 KTS BAR 22 SWELL DIRECTION 71 H 03 T 06 CLUD 0 AMT 2 WEATHER

0	14.00	31.691	6.85	.26			.2
15	12.78	31.900	6.92	.35			.2
50	7.45	32.595	6.84	1.11			11.3
100	7.43	33.627	3.27	1.73			22.9
150	7.22	33.914	2.26	2.31			32.5
200	6.24	34.026	1.73	2.55			36.3

0	14.00	31.70	23.66	424.4	0
10	13.54	31.80	23.44	408.4	.042
20	11.98	31.99	24.28	366.0	.080
30	10.42	32.18	24.71	325.4	.115
50	7.45	32.60	25.50	250.4	.173
75	7.69	33.16	25.90	213.1	.231
100	7.94	33.63	26.24	181.4	.280
150	7.22	33.92	26.56	151.0	.343
200	6.24	34.03	26.78	130.8	.433

SUF10 45 00.0 N 124 20.5 W DATE 03 AUG 69 0315 RCT WIRE 00 DRY 59.9 WET 56.2 CRUISE C6908A
WIND DIRECTION 33 VEL 10 KTS BAR 22 SWELL DIRECTION 71 H 03 T 07 CLUD 0 AMT 2 WEATHER 01

0	13.24	32.082	7.39	.25			1.7
25	7.71	32.479	5.84	1.16			9.5
50	7.51	32.842	6.33	1.35			13.1
75	7.95	33.440	3.97	1.60			19.6
100	7.76	33.748	3.35	1.93			26.7
150	7.87	33.969	1.98	2.47			33.9

0	13.24	32.09	24.12	381.5	0
10	7.83	32.26	25.18	240.7	.033
20	7.75	32.41	25.30	269.0	.061
30	7.67	32.54	25.42	257.8	.087
50	7.52	32.85	25.68	233.3	.136
75	7.95	33.45	26.09	195.2	.190
100	7.77	33.75	26.16	170.0	.235
150	7.87	33.97	26.51	154.2	.317

SUF11 45 02.8 N 124 12.5 W DATE 02 AUG 69 0440 RCT WIRE 00 DRY 54.1 WET 55.0 CRUISE C6908A
WIND DIRECTION 00 VEL 07 KTS BAR 20 SWELL DIRECTION 71 H 04 T 06 CLUD 6 AMT 2 WEATHER 02

0	11.46	32.474	6.77	.91			6.3
10	10.07	32.554	6.22	1.04			7.3
25	7.43	32.634	6.60	1.35			13.4
50	7.77	33.554	3.03	2.15			28.4
75	7.65	33.841	3.11				29.0
120	6.86	33.960	2.33	2.60			33.8

0	11.46	32.48	24.76	320.5	0
10	10.07	32.56	25.06	291.7	.031
20	8.23	32.59	25.34	261.8	.058
30	7.50	32.81	25.65	235.0	.083
50	7.78	33.56	26.20	183.7	.125
75	7.64	33.85	26.54	161.2	.168
100	7.30	33.91	26.54	152.2	.207

SUF 1A 44 39.1 N 124 24.8 W DATE 03 AUG 69 1355 RCT WIRE 00 DRY 54.2 WET 54.1 CRUISE C6908A
WIND DIRECTION 00 VEL 06 KTS BAR 21 SWELL DIRECTION 71 H 03 T 07 CLUD 7 AMT 1 WEATHER 02

0	11.76	32.162	6.69	.88			3.2
10	9.76	32.404	6.34	1.01			6.4
25	7.45	32.529	6.99	1.04			10.6
50	7.40	32.871	6.06	1.44			16.3
74	7.61	33.735	2.90	2.23			28.3

0	11.76	32.17	24.64	348.8	0
10	9.76	32.41	24.06	241.8	.032
20	7.90	32.50	24.15	264.0	.060
30	7.44	32.57	24.64	252.8	.086
50	7.41	32.88	24.72	220.7	.134
74	7.60	33.69	26.31	171.0	.194

OBSERVED										INTERPOLATED					DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃			Z	T	S	σ_t	δ	$\Delta\delta$		
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)			(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)		
SUF10A 44 55.6 N 124 24.7 W DATE 07 AUG 69 2210 ICT WIRE 00 DRY 67.8 WET 48.0 CRUISE C6400A WIND DIRECTION 34 VFL 07 KTS BAR 21 SWELL DIRECTION 11 M 03 T 06 CLOUD 7 AMT 1 WEATHER 02																	
0	13.74	31.997	7.08	.19			.5			0	13.74	31.996	23.92	400.3		0	
10	12.79	32.003	7.16	.16			.7			10	12.79	32.01	24.14	374.2		.039	
25	8.16	32.444	4.54	.76			4.5			20	9.74	32.24	24.91	304.4		.073	
50	7.43	32.642	4.48	1.18			12.3			30	7.41	32.49	25.19	291.1		.102	
75	7.07	33.439	3.89	1.77			22.6			50	7.44	32.64	25.44	247.2		.152	
100	7.72	33.741	1.00	2.37			28.6			75	7.97	33.44	24.04	194.4		.208	
175	6.58	33.947	1.94	2.90			36.0			100	7.72	33.77	24.17	144.4		.243	
										150	7.02	33.92	24.54	144.3		.133	
SUF11A 44 57.1 N 124 20.5 W DATE 06 AUG 69 0010 ICT WIRE 00 DRY 62.3 WET 47.7 CRUISE C6400A WIND DIRECTION 34 VFL 04 KTS BAR 21 SWELL DIRECTION 11 M 02 T 06 CLOUD 7 AMT 1 WEATHER 02																	
0	14.09	31.941	7.16	.28			.7			0	14.09	31.99	23.87	405.3		0	
10	12.10	32.143	7.47	.44			.5			10	12.10	32.15	24.78	344.3		.038	
25	7.92	32.458	4.22	1.14			7.4			20	9.23	32.35	25.04	294.4		.071	
50	7.57	32.988	4.90	1.71			18.1			30	7.85	32.56	25.41	244.1		.098	
75	7.94	33.655	3.42	2.23			24.6			50	7.57	32.99	25.19	221.1		.147	
100	7.57	33.831	2.40							75	7.94	33.66	26.26	174.2		.147	
150	6.87	33.958	1.83							100	7.57	33.84	26.45	141.2		.219	
										150	6.87	33.96	26.44	143.3		.215	
SUF12A 45 00.2 N 124 12.0 W DATE 04 AUG 69 0114 ICT WIRE 00 DRY 59.9 WET 56.8 CRUISE C6400A WIND DIRECTION 32 VFL 07 KTS BAR 20 SWELL DIRECTION 11 M 02 T 06 CLOUD 6 AMT 01 WEATHER 02																	
0	12.36	32.023	7.94	.40			1.9			0	12.36	32.03	24.24	364.7		0	
10	11.46	32.284	7.47	.63			2.0			10	11.46	32.29	24.61	314.7		.035	
25	7.57	32.651	4.04	1.49			15.8			20	8.47	32.52	24.21	274.2		.066	
50	7.77	33.414	2.57	2.51			24.8			30	7.81	32.85	25.47	233.8		.091	
75	7.57	33.840	2.65	2.92			30.8			50	7.78	33.82	24.25	174.4		.133	
100	7.35	33.921	2.33							75	7.57	33.47	26.47	144.7		.175	
										100	7.35	33.93	24.59	147.4		.213	
SUF13A 45 01.7 N 124 07.5 W DATE 04 AUG 69 0245 ICT WIRE 00 DRY 60.0 WET 56.5 CRUISE C6400A WIND DIRECTION 32 VFL 04 KTS BAR 20 SWELL DIRECTION 11 M 02 T 06 CLOUD 6 AMT 1 WEATHER 02																	
0	12.22	31.442	7.50	.65			3.0			0	12.22	31.44	23.84	407.0		0	
15	8.10	32.753	4.59	1.92			17.9			10	8.44	32.63	25.37	262.2		.133	
25	7.93	32.994	1.89	2.20			23.6			20	7.99	32.90	25.45	234.4		.144	
50	7.62	33.800	2.72	2.37			30.4			30	7.84	33.17	25.44	213.4		.141	
75	7.10	33.906	2.02	2.84			40.8			50	7.63	33.80	24.42	147.4		.114	
										75	7.12	33.90	24.54	144.4		.144	
SUF14A 45 03.1 N 124 11.0 W DATE 04 AUG 69 0325 ICT WIRE 00 DRY 60.9 WET 57.2 CRUISE C6400A WIND DIRECTION 35 VFL 07 KTS BAR 20 SWELL DIRECTION 11 M 03 T 07 CLOUD 4 AMT 1 WEATHER 02																	
0	13.17		8.01	.42			1.2			0	13.17	31.44	23.87	424.4		0	
10	10.72	32.507	7.39	.63			1.2			10	10.72	32.51	24.91	305.4		.037	
25	7.53	32.652	4.21	1.81			14.6			20	8.42	32.47	24.24	273.4		.065	
50	7.79	33.544	2.41	2.67			29.7			30	7.54	32.82	25.65	234.7		.091	
100	7.14	33.910	2.10	2.90			33.3			50	7.40	33.59	24.22	141.4		.133	
										75	7.67	33.75	26.17	144.7		.176	
										100	7.17	33.92	24.57	144.4		.216	
SUF15A 45 04.4 N 124 07.4 W DATE 04 AUG 69 0430 ICT WIRE 00 DRY 57.6 WET 55.3 CRUISE C6400A WIND DIRECTION VFL 04 KTS BAR 20 SWELL DIRECTION 11 M 03 T 07 CLOUD 4 AMT 1 WEATHER 02																	
0	12.26	32.194	7.39	.86			6.3			0	12.26	32.20	24.40	344.0		0	
15	7.66	32.841	4.24	2.02			19.0			10	7.50	32.59	25.48	251.4		.030	
25	7.94	33.403	1.11	2.49			24.1			20	7.67	33.14	25.89	213.2		.054	
50	7.47	33.851	2.65	2.48			29.2			30	7.95	33.56	26.18	144.0		.074	
75	7.02	33.932	2.33	2.64			32.3			50	7.47	33.86	26.44	157.7		.104	
										75	7.04	33.93	26.60	144.7		.144	
SUF 17 44 39.1 N 124 24.4 W DATE 04 AUG 69 1310 ICT WIRE 00 DRY 54.5 WET 55.1 CRUISE C6400A WIND DIRECTION VFL 04 KTS BAR 19 SWELL DIRECTION 31 M 02 T 06 CLOUD 9 AMT 1 WEATHER 02																	
0	12.66	32.103	7.13	.39			1.0			0	12.66	32.11	24.25	369.2		0	
10	10.19	32.313	6.38	.74			3.4			10	10.19	32.32	24.85	311.5		.034	
25	7.75	32.465	4.07	1.14			4.1			20	8.39	32.44	25.22	276.4		.043	
50	7.30	32.734	4.45	1.27			10.7			30	7.44	32.51	25.42	257.6		.090	
75	7.42	33.354	4.04	1.74			23.2			50	7.31	32.74	25.63	234.4		.140	
										75	7.78	33.32	26.02	201.7		.195	
SUF 24 44 40.7 N 124 19.3 W DATE 04 AUG 69 1425 ICT WIRE 00 DRY 55.2 WET 54.3 CRUISE C6400A WIND DIRECTION 22 VFL 05 KTS BAR 20 SWELL DIRECTION 31 M 02 T 06 CLOUD 6 AMT 1 WEATHER 02																	
0	11.47	32.506	6.92	1.16			7.0			0	11.47	32.51	24.78	318.3		0	
10	11.14	32.576	4.36	1.22			9.6			10	11.14	32.58	24.89	307.7		.031	
25	9.14	32.604	4.45	1.51			13.0			20	9.86	32.54	25.12	284.7		.061	
50	7.65	33.285	4.05	1.88			21.1			30	8.69	32.72	25.41	254.4		.088	
75	7.64	33.814	2.72	2.43			31.1			50	7.64	33.29	26.01	202.2		.134	
										75	7.64	33.80	26.41	144.7		.140	

NOT REPRODUCIBLE

OBSERVED

INTERPOLATED

DERIVED

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D	T	S	O ₂	FO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ⁻³)	(dyn/cm)

SUP 34 44 42.1 N 124 11.7 W DATE 04 AUG 69 1530 OCT WIRE 00 DRY 54.8 WET 53.1 CRUISE C690RA
WIND DIRECTION 24 VEL 04 KTS BAR 20 SWELL DIRECTION 30 M 04 T 07 CLOUD 6 AMT 6 WEATHER 02

0	10.50	32.610	4.57	1.27			0.7	0	10.40	32.61	25.03	244.4	0
10	10.01	32.667	4.76	1.37			1.0	10	10.11	32.67	25.16	242.4	.129
25	7.66	33.050	1.81	1.98			26.2	20	8.45	32.90	25.54	242.0	.155
50	7.63	33.784	2.72	2.28			32.2	30	7.45	33.19	25.93	202.4	.178
								50	7.44	33.79	26.40	154.4	.115

SUP 44 44 43.9 N 124 14.9 W DATE 04 AUG 69 1627 OCT WIRE 00 DRY 57.8 WET 55.3 CRUISE C690RA
WIND DIRECTION 30 VEL 07 KTS BAR 20 SWELL DIRECTION 30 M 04 T 07 CLOUD 6 AMT 6 WEATHER 02

0	12.35	32.260	7.55	.41			.9	0	12.35	32.26	24.43	352.0	0
10	9.44	32.441	4.85	.70			2.7	10	9.44	32.45	24.00	248.1	.112
25	7.37	32.291	4.45	1.26			10.9	20	8.44	33.02	25.74	227.2	.144
50	7.63	32.638	4.01	1.68			17.8	30	7.42	33.19	25.98	202.2	.180
75	7.71	32.790	2.88	2.14			27.3	50	7.44	33.79	25.90	154.1	.126
								75	7.71	33.79	26.40	144.4	.174

SUP 54 44 47.5 N 124 29.6 W DATE 04 AUG 69 1743 OCT WIRE 00 DRY 59.1 WET 55.8 CRUISE C690RA
WIND DIRECTION 34 VEL 04 KTS BAR 21 SWELL DIRECTION 30 M 03 T 06 CLOUD 6 AMT 6 WEATHER 02

0	13.96	31.891	4.89	0.24			.1	0	13.96	31.90	23.43	409.4	0
10	13.43	31.995	7.00	0.44			.7	10	13.43	32.00	24.01	391.7	.140
50	7.42	32.561	5.84	1.04			6.9	20	11.45	32.11	24.39	344.4	.177
100	7.90	33.624	3.58	2.01			28.0	30	10.46	32.25	24.75	321.1	.111
150		33.956	1.99					50	7.43	32.57	25.47	251.1	.149
								75	7.66	33.11	25.87	215.4	.127
								100	7.91	33.63	26.24	151.2	.177
								150	6.87	33.96	26.64	141.5	.158

SUP 64 44 44.4 N 124 35.0 W DATE 04 AUG 69 1900 OCT WIRE 00 DRY 61.0 WET 57.0 CRUISE C690RA
WIND DIRECTION 13 VEL 04 KTS BAR 22 SWELL DIRECTION 30 M 03 T 06 CLOUD 6 AMT 6 WEATHER 02

0	15.11	31.353	4.30	.27			.5	0	15.11	31.36	23.17	471.4	0
10	12.87	31.729	4.54	.40			.2	10	12.88	31.73	23.92	400.8	.144
50	8.04	32.750	5.52	1.21			13.6	20	11.16	32.03	24.47	344.4	.181
100	7.91	33.660	3.58	2.05			28.0	30	9.78	32.30	24.91	306.3	.114
200	6.63	33.975	2.30	2.58			36.4	50	8.04	32.75	25.53	247.4	.149
								75	7.94	33.26	25.94	200.1	.126
								100	7.92	33.67	26.26	172.7	.175
								150	7.44	33.82	26.45	161.5	.140
								200	6.53	33.97	26.69	139.6	.135

SUP 74 44 54.0 N 124 18.1 W DATE 04 AUG 69 2105 OCT WIRE 00 DRY 61.4 WET 58.1 CRUISE C690RA
WIND DIRECTION 14 VEL 04 KTS BAR 22 SWELL DIRECTION 30 M 04 T 06 CLOUD 6 AMT 6 WEATHER 02

0	14.04	31.489	7.31				.1	0	14.04	31.49	23.50	440.5	0
10	11.35	32.231	7.47	.46			.1	10	11.35	32.24	24.59	334.4	.139
25	7.72	32.477	4.15	1.11			8.8	20	8.76	32.45	25.19	270.4	.172
50	7.47	32.936	4.90	1.55			17.8	30	7.47	32.57	25.44	254.9	.196
125	8.22	33.958	2.10	2.44			33.3	50	7.47	32.94	25.76	226.4	.145
								75	7.72	33.34	26.04	200.1	.198
								100	7.72	33.68	26.30	174.1	.145

SUP 84 44 55.6 N 124 12.6 W DATE 04 AUG 69 2150 OCT WIRE 00 DRY 61.0 WET 57.0 CRUISE C690RA
WIND DIRECTION 14 VEL 12 KTS BAR 22 SWELL DIRECTION 30 M 02 T 06 CLOUD 6 AMT 6 WEATHER 02

0	14.07	31.008	7.55	.45			.7	0	14.07	31.01	23.12	476.4	0
10	12.01	31.024	7.82	.62			.7	10	12.01	31.03	23.54	437.3	.146
25	8.27	32.757	4.82	1.73			16.7	20	9.42	32.12	24.83	314.2	.183
50	7.80	33.424	2.88	2.15			28.0	30	8.18	32.03	25.73	228.9	.110
100		33.946	2.23					50	7.41	32.50	24.15	184.4	.152
								75	7.72	33.89	24.47	154.7	.196
								100	7.72	33.95	24.52	154.7	.175

SUP 94 44 57.1 N 124 07.1 W DATE 04 AUG 69 2250 OCT WIRE 00 DRY 59.0 WET 55.8 CRUISE C690RA
WIND DIRECTION 14 VEL 14 KTS BAR 22 SWELL DIRECTION 30 M 03 T 08 CLOUD 6 AMT 6 WEATHER 02

0	13.65	31.472	7.47	.38			1.0	0	13.65	31.48	23.57	434.2	0
10	10.53	32.743	5.84	1.32			12.0	10	10.53	32.80	25.17	281.5	.136
25	8.37	33.420	1.35					20	8.44	33.19	25.91	211.4	.180
40	7.65	33.810	2.40	2.38			30.8	30	7.77	33.67	26.26	174.4	.190

SUP 104 44 59.0 N 124 12.4 W DATE 04 AUG 69 2354 OCT WIRE 00 DRY 51.7 WET 48.7 CRUISE C690RA
WIND DIRECTION 12 VEL 10 KTS BAR 22 SWELL DIRECTION 30 M 03 T 06 CLOUD 6 AMT 6 WEATHER 02

0	14.60	30.838	7.39	.24			1.0	0	14.60	30.84	22.84	499.7	0
15	9.13	32.512	4.21	1.37			8.1	10	9.99	32.44	24.49	240.0	.140
25	7.40	32.888	5.29	1.67			15.6	20	8.10	32.44	24.43	244.5	.144
50	7.57	33.100	1.84					30	7.43	32.77	25.81	217.7	.122
100	7.20	33.844	2.18	2.41			30.1	50	7.57	33.20	25.45	207.4	.177
								75	7.50	33.61	24.28	174.7	.185
								100	7.20	33.90	24.55	151.1	.124

OBSERVED										INTERPOLATED				DERIVED	
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃			Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)			(m)	(°C)	(‰)		($\times 10^3$)	(dyn/m)
SUF11R 45 00.4 N 124 17.4 W DATE 05 AUG 69 0000 GCT WIRE 00 DRY 42.8 WET 40.1 CRUISE C69084															
WIND DIRECTION 20 VEL 11 KTS BAR 21 SWELL DIRECTION 71 M 04 T 07 CLOUD 6 AMT 1 WEATHER 02															
0	14.73	30.818	7.19	.24			.3			0	14.73	31.82	27.44	501.3	0
10	12.53	31.671	7.02	.32			.1			10	12.53	31.68	27.94	398.7	.045
50	7.41	32.971	4.94	1.64			20.0			20	10.76	32.18	24.65	370.4	.042
100	7.54	33.429	3.17	1.99			30.0			30	9.31	32.57	24.19	274.4	.112
150	6.84	33.961	1.94	2.49			35.6			50	7.42	32.78	24.80	227.4	.142
										75	7.44	33.50	26.20	184.4	.213
										100	7.55	33.83	26.45	161.0	.246
										150	6.44	33.97	26.66	142.1	.332
SUF12R 45 02.4 N 124 12.2 W DATE 05 AUG 69 0151 GCT WIRE 00 DRY 60.5 WET 57.1 CRUISE C69084															
WIND DIRECTION 19 VEL 12 KTS BAR 22 SWELL DIRECTION 31 M 04 T 06 CLOUD 6 AMT 3 WEATHER 02															
0	14.25	31.055	7.55	.19			1.0			0	14.25	31.06	23.12	474.4	0
10	9.99	32.643	4.46	2.07			4.9			10	9.99	32.65	25.14	281.9	.034
50	7.78	33.444	3.11	2.09			29.4			20	8.23	32.29	24.92	270.4	.043
75	7.42	33.877	2.49	2.27			32.2			30	8.49	33.07	24.65	234.0	.045
115	6.99	33.946	2.10	2.46			34.3			50	7.79	33.50	24.15	184.4	.127
										75	7.43	33.88	24.51	155.4	.170
										100	7.13	33.92	26.58	148.9	.208
SUF13R 45 03.4 N 124 06.7 W DATE 05 AUG 69 0250 GCT WIRE 00 DRY 58.3 WET 56.1 CRUISE C69084															
WIND DIRECTION 19 VEL 11 KTS BAR 22 SWELL DIRECTION 31 M 03 T 06 CLOUD 6 AMT 3 WEATHER 02															
0	13.24	31.636	7.44	.27			1.1			0	13.24	31.64	23.77	414.3	0
10	9.43	32.670	5.60	1.17			10.6			10	9.43	32.67	25.26	273.2	.034
25	7.64	33.140	3.42	2.10			27.5			20	7.90	32.09	25.81	220.4	.049
50	7.63	33.744	2.40	2.22			30.9			30	7.64	33.33	24.04	194.7	.040
76	6.93	33.945	1.94	2.52			34.9			50	7.64	33.79	24.40	164.7	.116
										75	6.47	33.94	26.61	144.1	.155
SUF14R 45 05.7 N 124 12.1 W DATE 05 AUG 69 0353 GCT WIRE 00 DRY 54.8 WET 57.0 CRUISE C69084															
WIND DIRECTION 17 VEL 10 KTS BAR 22 SWELL DIRECTION 30 M 04 T 06 CLOUD 9 AMT 4 WEATHER 02															
0	14.84		7.31	.18			.8			0	14.84	31.64	23.45	445.4	0
10	11.14	32.283	7.61	.36			.7			10	11.14	32.29	24.67	324.3	.039
25	7.39	32.585	4.74	1.34			12.8			20	8.36	32.45	25.25	274.2	.049
50	7.61	33.266	3.73	1.49			24.4			30	7.43	32.72	25.59	241.4	.045
125	6.85	33.957	2.07	2.27			29.6			50	7.61	33.27	24.00	207.1	.139
										75	7.59	33.72	24.36	169.6	.146
										100	7.34	33.95	26.57	149.4	.226
SUF 1C 44 39.1 N 124 24.7 W DATE 05 AUG 69 1330 GCT WIRE 00 DRY 56.0 WET 55.0 CRUISE C69084															
WIND DIRECTION 18 VEL 06 KTS BAR 23 SWELL DIRECTION 29 M 06 T 08 CLOUD 6 AMT 4 WEATHER 02															
0	12.18		7.31	.39			.8			0	12.18	31.64	23.98	395.0	0
10	10.21	32.448	7.00	.64			1.9			10	10.21	32.45	24.96	301.4	.035
25	7.88	32.498	5.74	1.21			9.9			20	8.53	32.40	25.19	280.1	.044
50	7.35	32.975	4.94	1.53			17.9			30	7.57	32.58	25.46	254.0	.041
75	7.74	33.394	3.97	1.81			24.9			50	7.35	32.98	24.81	221.1	.138
										75	7.74	33.40	26.08	195.7	.190
SUF 2C 44 40.6 N 124 19.3 W DATE 05 AUG 69 1430 GCT WIRE 00 DRY 55.5 WET 54.2 CRUISE C69084															
WIND DIRECTION 19 VEL 04 KTS BAR 24 SWELL DIRECTION 29 M 06 T 07 CLOUD 4 AMT 4 WEATHER 02															
0	12.82	31.852	7.31	.38			.4			0	12.82	31.86	24.02	390.4	0
10	11.97	32.351	7.38	.39			.3			10	11.97	32.36	24.57	334.7	.036
25	11.14	32.945	7.09	.54			1.2			20	11.47	32.70	24.92	305.0	.049
50	7.41	33.723	4.75	1.36			14.1			30	10.36	33.02	24.37	267.9	.047
70	7.82		3.27	2.00			25.6			50	7.42	33.73	26.39	164.4	.140
SUF 3C 44 42.1 N 124 13.7 W DATE 05 AUG 69 1539 GCT WIRE 00 DRY 55.5 WET 54.2 CRUISE C69084															
WIND DIRECTION 16 VEL 07 KTS BAR 24 SWELL DIRECTION 28 M 06 T 07 CLOUD 4 AMT 4 WEATHER 02															
0	13.51	31.317	7.31							0	13.51	31.86	23.89	407.6	0
10	9.91		5.45							10	9.91	32.36	24.93	304.2	.035
25	8.16	33.130	1.58							20	8.44	32.70	25.43	257.0	.043
50	7.68	33.750	2.65							30	7.82	33.02	25.77	224.7	.048
										50	7.69	33.73	26.35	170.1	.127
SUF 4C 44 43.9 N 124 14.9 W DATE 05 AUG 69 1620 GCT WIRE 00 DRY 56.0 WET 55.3 CRUISE C69084															
WIND DIRECTION 14 VEL 04 KTS BAR 24 SWELL DIRECTION 27 M 06 T 07 CLOUD 4 AMT 4 WEATHER 02															
0	13.75	31.500	7.22							0	13.75	31.50	23.57	434.0	0
10	10.75	32.459	4.77							10	10.75	32.46	24.87	303.8	.037
25	7.43	32.449	5.20							20	8.32	32.60	24.37	247.4	.046
50	7.58	33.253	4.05							30	7.44	32.74	24.63	237.4	.041
75	7.79	33.743	3.25							40	7.58	33.24	24.94	203.7	.135
										75	7.60	33.75	26.15	170.4	.142

OBSERVED								INTERPOLATED				DERIVED	
D	T	S	O ₂	PO ₄	pH	Aik.	NO ₃	Z	T	S	σ _t	δ	Δσ
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ³)	(dyn/cm)
SUF 5C 44 47.5 N 124 29.5 W DATE 04 AUG 69 1755 GCT WIRE 00 DRY 60.6 WET 57.6 CRUISE C6409A													
WIND DIRECTION 21 VEL 04 KTS BAR 24 SWELL DIRECTION 29 H 06 T 07 CLOUD 8 AMT 4 WEATHER 02													
0	14.10	31.831	7.16					0	14.10	31.84	23.75	416.5	0
10	10.45	32.364	7.00					10	10.45	32.37	24.85	311.6	.136
25	7.79	32.445	6.30					20	8.39	32.42	25.22	274.8	.146
50	7.46	32.73	5.45					30	7.52	32.49	25.40	249.4	.153
150	6.95	33.941	2.41					50	7.46	32.74	25.40	247.7	.163
								75	7.21	33.03	25.87	216.1	.170
								100	7.04	33.33	26.12	191.9	.174
								150	6.95	33.94	26.62	145.7	.175
SUF 6C 44 49.4 N 124 35.0 W DATE 05 AUG 69 1900 GCT WIRE 00 DRY 61.9 WET 58.0 CRUISE C6409A													
WIND DIRECTION 4 VEL 00 KTS BAR 24 SWELL DIRECTION 29 H 06 T 06 CLOUD 6 AMT 2 WEATHER 02													
0	14.63	31.585	6.85					0	14.63	31.59	23.45	445.1	0
10	12.97	31.940	7.08					10	12.97	31.94	24.06	387.5	.162
25	8.65	32.449	6.85					20	10.13	32.29	24.84	313.1	.177
100	7.94	33.630	3.66					30	8.07	32.54	25.39	257.8	.185
201	6.50	33.978	2.14					50	8.41	33.01	26.48	233.5	.185
								75	8.18	33.41	26.02	201.2	.189
								100	7.94	33.63	26.24	181.3	.187
								150	7.30	33.80	26.46	147.6	.182
								200	6.52	33.97	26.70	134.2	.187
SUF 7C 44 54.0 N 124 18.1 W DATE 05 AUG 69 2100 GCT WIRE 00 DRY 65.0 WET 59.5 CRUISE C6409A													
WIND DIRECTION 33 VEL 04 KTS BAR 23 SWELL DIRECTION 29 H 06 T 07 CLOUD 8 AMT 1 WEATHER 02													
0	15.38	31.084	6.92					0	15.38	31.09	22.91	496.9	0
10	11.04	32.240	7.55					10	11.04	32.24	24.68	327.0	.161
25	7.47	32.532	5.91					20	8.37	32.45	25.24	274.5	.171
76	7.85	33.566	3.35					30	7.51	32.64	25.52	248.1	.187
125	7.06	33.941	1.94					50	7.66	33.07	25.84	218.5	.184
								75	7.77	33.57	26.21	183.5	.184
								100	7.61	33.84	26.45	161.4	.187
SUF 8C 44 55.6 N 124 12.5 W DATE 05 AUG 69 2205 GCT WIRE 00 DRY 63.7 WET 53.8 CRUISE C6409A													
WIND DIRECTION 35 VEL 10 KTS BAR 22 SWELL DIRECTION 29 H 06 T 07 CLOUD 8 AMT 2 WEATHER 02													
0	15.49	30.838	6.92					0	15.49	30.84	22.70	517.4	0
10	12.09	31.016	7.78					10	12.09	31.02	23.51	439.3	.168
25	8.18	32.645	5.76					20	9.23	32.06	24.81	314.0	.186
50	8.46	33.450	2.86					30	8.24	32.92	25.63	237.0	.183
100	7.06	33.942	1.87					50	8.46	33.46	26.02	201.4	.187
								75	8.09	33.88	26.41	164.6	.183
								100	7.07	33.95	26.61	144.0	.182
SUF 9C 44 57.1 N 124 07.0 W DATE 05 AUG 69 2230 GCT WIRE 00 DRY 63.2 WET 59.6 CRUISE C6409A													
WIND DIRECTION 35 VEL 10 KTS BAR 22 SWELL DIRECTION 29 H 06 T 07 CLOUD 8 AMT 2 WEATHER 02													
0	14.84	31.197	7.08	.19		1.4		0	14.84	31.20	23.11	477.8	0
10	10.53	32.664	6.22	1.29		12.2		10	10.53	32.67	25.07	247.7	.184
25	8.33	33.264	3.58	2.10		24.9		20	8.71	33.19	25.77	224.5	.184
50	7.61	33.808	2.72	2.25		29.3		30	7.89	33.42	26.08	195.6	.185
								50	7.61	33.81	26.42	162.8	.181
SUF10C 44 59.0 N 124 12.3 W DATE 06 AUG 69 0010 GCT WIRE 13 DRY 64.5 WET 59.5 CRUISE C6409A													
WIND DIRECTION 34 VEL 10 KTS BAR 22 SWELL DIRECTION 29 H 04 T 07 CLOUD 8 AMT 2 WEATHER 02													
0	15.08	31.160	7.08					0	15.08	31.17	23.03	484.3	0
10	11.91	32.074	7.76					10	11.91	32.04	24.34	361.0	.182
25	8.04	32.546	5.68					20	9.12	32.43	25.12	284.5	.175
50	7.58	33.232	3.73					30	7.64	32.70	25.55	245.7	.181
110	7.15	33.930	2.33					50	7.58	33.24	25.94	205.2	.186
								75	7.29	33.69	26.37	164.1	.183
								100	7.16	33.91	26.56	150.7	.183
SUF11C 45 00.9 N 124 17.8 W DATE 06 AUG 69 0125 GCT WIRE 10 DRY 62.0 WET 58.9 CRUISE C6409A													
WIND DIRECTION 00 VEL 12 KTS BAR 22 SWELL DIRECTION 33 H 06 T 08 CLOUD 6 AMT 2 WEATHER 02													
0	14.98	31.554	6.92					0	14.98	31.56	23.35	454.4	0
10	11.06	32.419	8.08					10	11.06	32.42	24.79	318.0	.189
25	7.74	32.458	6.27					20	8.55	32.44	25.22	277.2	.188
50	7.37	32.922	4.98					30	7.40	32.53	25.45	254.4	.185
150	7.10	33.934	2.18					50	7.38	32.93	25.78	225.4	.183
								75	7.12	33.30	26.09	194.5	.185
								100	7.23	33.60	26.31	174.7	.182
								150	7.10	33.96	26.54	148.0	.182

OBSERVED								INTERPOLATED				DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	ΔD	
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ⁵)	(dyn/m)	
SUF12C 45 02.4 N 124 12.2 W DATE 04 AUG 69 0240 GCT WIRE 00 DRY 50.5 WET 57.1 CRUISE C6908A WIND DIRECTION 35 VEL 12 KTS RAR 21 SWELL DIRECTION 30 M 05 T 04 CLOUD 8 AMT 2 WEATHER 02														
0	13.53	31.889	7.47	.24			.6	0	13.53	31.89	23.91	401.2	0	
10	10.24	32.382	7.24	.57			1.0	10	10.24	32.39	24.90	307.2	.135	
25	7.28	32.631	5.65	1.31			12.0	20	8.00	32.57	25.40	259.4	.166	
50	7.60	33.279	3.73	1.98			24.1	30	7.34	32.76	25.63	237.4	.189	
100	7.28	33.844	2.57	2.25			29.3	50	7.60	33.28	26.01	202.1	.133	
								75	7.60	33.70	26.34	171.3	.174	
								100	7.29	33.90	26.54	152.2	.220	
SUF13C 45 03.9 N 124 06.6 W DATE 06 AUG 69 0350 GCT WIRE 00 DRY 58.6 WET 56.0 CRUISE C6908A WIND DIRECTION 01 VEL 12 KTS RAR 21 SWELL DIRECTION 30 M 05 T 08 CLOUD 8 AMT 1 WEATHER 02														
0	13.69	31.923	7.31					0	13.69	31.93	23.91	401.4	0	
10	10.37	32.642	5.84					10	10.38	32.69	25.11	287.1	.134	
25	7.58	32.861	4.20					20	8.24	32.85	25.58	242.8	.161	
50	7.71	33.763	2.65					30	7.41	33.04	25.82	219.9	.186	
75	7.02	33.929	2.02					50	7.71	33.77	26.37	175.5	.123	
								75	7.03	33.93	26.60	144.2	.162	
WM 1A 45 06.4 N 124 07.0 W DATE 06 AUG 69 1715 GCT WIRE 00 DRY 61.9 WET 59.0 CRUISE C6908A WIND DIRECTION 35 VEL 07 KTS RAR 20 SWELL DIRECTION 32 M 04 T 05 CLOUD 8 AMT 2 WEATHER 02														
0	13.24	31.742	7.05	.51			3.5	0	13.24	31.73	24.00	393.2	0	
10	8.07		4.59	1.57			16.1	10	8.07	32.69	25.48	252.4	.132	
25	7.26		4.56	1.68			18.4	20	7.53	32.85	25.68	232.9	.157	
50	7.66		2.41	2.30			29.8	30	7.29	33.04	25.86	215.4	.179	
75	7.14		2.10	2.46			31.2	50	7.67	33.77	26.38	166.8	.117	
								75	7.15	33.93	26.59	147.7	.157	
WM 1B 45 04.4 N 124 09.0 W DATE 06 AUG 69 2150 GCT WIRE 05 DRY 63.0 WET 61.4 CRUISE C6908A WIND DIRECTION 34 VEL 14 KTS RAR 20 SWELL DIRECTION 32 M 04 T 05 CLOUD 8 AMT 1 WEATHER 02														
0	13.64	31.744	7.39	.34			1.5	0	13.64	31.75	23.78	414.0	0	
10	12.28	32.136	7.27	.35			2.3	10	12.28	32.14	24.34	360.1	.039	
25	8.40	32.582	4.98					20	9.68	32.44	25.04	254.3	.171	
50	7.57	33.352	3.35	2.65			35.1	30	7.92	32.74	25.54	246.3	.198	
75	7.52	33.914	2.57	2.22			32.3	50	7.57	33.36	26.07	196.2	.143	
								75	7.53	33.92	26.52	154.0	.186	
C14 1 45 09.7 N 124 07.3 W DATE 07 AUG 69 1455 GCT WIRE 00 DRY 56.9 WET 56.1 CRUISE C6908A WIND DIRECTION VEL 00 KTS RAR 20 SWELL DIRECTION 32 M 04 T 06 CLOUD 8 AMT 5 WEATHER 02														
0	12.50	31.957	7.36	.40			1.8	0	12.50	31.96	24.16	377.0	0	
10	10.23		5.60	1.18			10.3	10	10.23	32.58	25.05	292.6	.133	
15	9.95	32.676	5.52	1.20			11.8	20	8.76	32.78	25.44	255.5	.161	
25	7.44	32.865	4.56	1.67			19.4	30	7.49	32.99	25.80	221.7	.185	
50	7.67	33.750	2.49	2.26			30.9	50	7.68	33.75	26.37	167.9	.124	
73	7.13		2.02	2.44			34.0							
C14 5 44 59.9 N 124 07.2 W DATE 08 AUG 69 0245 GCT WIRE 00 DRY 59.0 WET 58.5 CRUISE C6908A WIND DIRECTION VEL KTS RAR 21 SWELL DIRECTION 31 M 03 T 06 CLOUD 8 AMT 2 WEATHER 02														
0	13.83	31.013	9.21	.32			1.7	0	13.83	31.02	23.18	471.4	0	
10	9.53	32.673	4.87	2.18			23.7	10	9.53	32.68	25.24	274.5	.137	
15	8.34	32.783						20	7.71	32.89	25.69	232.3	.163	
25	7.40	33.006	4.51	2.33			29.0	30	7.46	33.16	25.93	209.0	.185	
50	7.72	33.719	2.64	2.57			31.4	50	7.72	33.72	26.34	171.0	.123	
74	7.45	33.898	2.02											
DR03 2 45 04.6 N 124 07.5 W DATE 08 AUG 69 1450 GCT WIRE 00 DRY 54.8 WET 52.7 CRUISE C6908A WIND DIRECTION 04 VEL 04 KTS RAR 20 SWELL DIRECTION 31 M 02 T 06 CLOUD 7 AMT 4 WEATHER 03														
0	12.77		8.54					0	12.77	31.02	23.38	451.5	0	
10	10.13		6.22					10	10.13	32.58	25.14	283.9	.137	
15	8.44		3.81					20	7.74	32.89	25.68	232.7	.163	
25	7.53		4.36					30	7.56	33.16	25.92	210.3	.185	
50	7.67		2.85					50	7.68	33.72	26.35	170.3	.123	
DR03 3 45 04.5 N 124 07.6 W DATE 08 AUG 69 1800 GCT WIRE 00 DRY 61.1 WET 57.7 CRUISE C6908A WIND DIRECTION 00 VEL 10 KTS RAR 18 SWELL DIRECTION 32 M 03 T 06 CLOUD 8 AMT 1 WEATHER 02														
0	12.67	31.874	7.62					0	12.67	31.90	24.08	384.8	0	
10	8.48	32.655	5.88					10	8.48	32.66	25.21	277.9	.133	
15	8.22	32.676	7.97					20	7.84	32.81	25.61	240.3	.165	
25	7.56	32.887	4.24					30	7.58	33.01	25.80	221.7	.182	
50	7.64	33.675	2.49					50	7.65	33.70	26.33	171.6	.121	

OBSERVED										INTERPOLATED					DERIVED		
D	T	S	O ₂	PO ₄	pH	Alk.	NO			Z	T	S	σ_t	δ	ΔD		
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)			(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)		
DB 65 45 00.0 N 125 35.2 W DATE 09 AUG 69 0910 RCT WIRE 00 DRY 62.0 WET 58.1 CRUISE C6908A																	
WIND DIRECTION 33 VEL 12 KTS BAR 17 SWELL DIRECTION 42 M 04 T 05 CLOUD 6 AMT 9 WEATHER 02																	
0	17.04	31.615	5.91	.20			.1			0	17.04	31.62	22.94	497.8	0		
10	16.17	31.643	6.26	.29						10	16.17	31.65	23.31	458.4	.044		
50	8.74	32.426	7.31	.57			.1			20	14.34	32.02	23.84	468.0	.091		
100	7.64	32.245	5.29	1.33			16.9			30	12.49	32.18	24.33	361.5	.129		
150	7.77	33.749	3.35	2.07			28.7			50	8.74	32.43	25.14	281.5	.194		
200	7.26	33.4	2.70	2.23			30.			75	8.19	32.69	25.44	254.4	.241		
										100	7.65	32.47	25.72	226.4	.271		
										150	7.78	33.79	26.39	167.9	.419		
										200	7.26	33.90	26.54	157.4	.400		
DB 55 45 00.0 N 125 21.2 W DATE 09 AUG 69 1045 RCT WIRE 00 DRY 61.3 WET 56.4 CRUISE C6908A																	
WIND DIRECTION 34 VEL 10 KTS BAR 18 SWELL DIRECTION 32 M 04 T 06 CLOUD 6 AMT 9 WEATHER 03																	
0	17.00	30.683	5.76	.24			.1			0	17.00	30.69	22.24	561.0	0		
10	16.70		5.77	.23			.1			10	16.71	31.51	22.94	494.3	.053		
50	8.86	32.462	7.06	.61			1.6			20	15.03	31.75	23.63	441.4	.100		
101		33.670	4.36							30	13.17	31.99	24.05	388.1	.141		
151	8.39	33.313	4.28	1.62			22.4			50	8.86	32.47	25.14	280.4	.208		
200		33.907	3.42							75	8.74	33.19	25.77	225.4	.271		
										100	8.63	33.66	26.15	189.5	.322		
										150	8.39	33.32	25.93	211.7	.422		
										200	7.26	33.91	26.45	157.1	.414		
DB 45 44 59.8 N 125 07.0 W DATE 09 AUG 69 1225 RCT WIRE 00 DRY 61.3 WET 56.7 CRUISE C6908A																	
WIND DIRECTION 33 VEL 07 KTS BAR 18 SWELL DIRECTION 32 M 03 T 06 CLOUD 6 AMT 7 WEATHER 02																	
0	16.07	31.637	6.15	.28			.2			0	16.07	31.64	23.19	471.1	0		
10	16.08	31.644	6.90	.24			.1			10	16.08	31.65	23.12	470.7	.047		
50	8.01	32.467	6.61	.80			5.6			20	14.33	31.80	23.63	424.0	.092		
101	8.12	33.312	4.28	1.57			20.6			30	12.41	31.99	24.70	373.0	.132		
151	7.62	33.799	3.19	1.89			25.5			50	8.01	32.47	25.32	284.1	.192		
200		33.956	2.49							75	8.06	32.92	25.66	236.0	.255		
										100	8.06	33.30	25.94	208.7	.311		
										150	7.64	33.79	26.41	166.7	.404		
										200	7.26	33.96	26.59	149.5	.447		
DB 35 44 59.9 N 124 52.9 W DATE 09 AUG 69 1355 RCT WIRE 00 DRY 57.0 WET 60.5 CRUISE C6908A																	
WIND DIRECTION VEL 00 KTS BAR 19 SWELL DIRECTION 32 M 03 T 06 CLOUD 6 AMT 7 WEATHER 03																	
0	14.69	32.273	6.28	.27			.2			0	14.69	32.28	23.97	395.4	0		
10	14.65	32.278	6.43	.23			.2			10	14.65	32.28	23.98	394.3	.040		
50	8.24	33.485	6.46	.82			5.3			20	13.26	32.54	24.47	344.4	.077		
101	8.08	33.388	4.25	1.69			21.1			30	11.72	32.83	24.99	299.5	.109		
151	7.43	33.889	2.96	2.09			27.3			50	8.24	33.49	25.09	195.4	.159		
200	6.68	33.978	2.33	2.37			31.9			75	8.16	33.44	26.05	188.7	.201		
										100	8.08	33.40	26.03	201.1	.244		
										150	7.45	33.88	26.41	157.0	.347		
										200	6.68	33.98	26.48	140.1	.422		
DB 30 44 58.5 N 124 46.0 W DATE 09 AUG 69 1510 RCT WIRE 00 DRY 60.5 WET 57.9 CRUISE C6908A																	
WIND DIRECTION VEL KTS BAR 19 SWELL DIRECTION 32 M 03 T 06 CLOUD 6 AMT 7 WEATHER 03																	
0	14.75	32.138	6.15	.37			.1			0	14.75	32.14	23.45	406.0	0		
10	13.41	32.252	6.69	.36			.1			10	13.41	32.26	24.22	372.4	.034		
50	7.85	32.610	6.11	1.02			8.8			20	11.80	32.33	24.54	337.4	.077		
101	8.08	33.623	7.78	1.82			23.1			30	10.33	32.42	24.91	304.8	.107		
151	7.54	33.883	3.42	1.94			25.7			50	7.85	32.61	25.45	254.2	.143		
200		33.963	2.69							75	7.94	33.11	25.43	219.9	.222		
										100	8.04	33.60	26.20	184.0	.273		
										150	7.56	33.88	26.49	158.3	.359		
										200	6.68	33.96	26.47	141.2	.433		
DB 25 44 57.0 N 124 39.3 W DATE 09 AUG 69 1620 RCT WIRE 00 DRY 61.0 WET 58.0 CRUISE C6908A																	
WIND DIRECTION 03 VEL 04 KTS BAR 19 SWELL DIRECTION 33 M 03 T 04 CLOUD 6 AMT 8 WEATHER 03																	
0	14.93	31.636	6.40	.22			.1			0	14.93	31.64	23.43	447.4	0		
10	13.04	32.212	6.72	.40			.1			10	13.04	32.22	24.26	384.6	.041		
50	7.47	32.578	6.15	.94			7.4			20	11.38	32.43	24.74	323.0	.075		
101	8.02	33.618	7.73							30	9.98	32.56	25.06	290.2	.104		
151	7.28	33.887	1.27	1.74			19.9			50	7.47	32.58	25.41	259.4	.141		
200	6.65	33.950	2.57	2.34			30.6			75	7.99	33.09	25.41	221.8	.221		
										100	7.99	33.50	26.20	184.7	.272		
										150	7.30	33.89	26.53	154.4	.347		
										200	6.65	33.95	26.47	141.7	.431		

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
DB 20 44 55.3 N 124 32.7 W DATE 09 AUG 69 1710 SCT WIRE 00 DRY 61.0 WET 67.0 CRUISE C6900A WIND DIRECTION VEL 00 KTS BAR 20 SWELL DIRECTION 33 M 03 T 05 CLCUD 6 AMT * WEATHER 01													
0	14.46	31.663	6.69	.23			.2	0	14.46	31.67	23.95	434.0	0
10	12.56	32.344	7.06	.35			.2	10	12.56	32.35	24.45	349.8	.079
50	7.42	32.616	4.91	1.13			10.6	20	10.46	32.57	24.94	303.8	.072
101	7.92	33.704	3.50	1.90			24.8	30	9.44	32.48	25.10	289.0	.102
151	7.24	33.902	3.30	2.14			28.3	50	7.43	32.62	25.52	249.0	.155
200	6.65	33.966	2.41	2.47			31.5	75	7.67	32.15	25.90	217.9	.213
								100	7.44	32.68	26.28	174.8	.262
								150	7.26	32.90	26.54	153.0	.344
								200	6.65	33.97	26.68	140.4	.417
DB 15 44 53.4 N 124 26.3 W DATE 09 AUG 69 1825 SCT WIRE 00 DRY 61.7 WET 59.2 CRUISE C6900A WIND DIRECTION 04 VEL 04 KTS BAR 20 SWELL DIRECTION 33 M 03 T 05 CLCUD 6 AMT * WEATHER 03													
0	14.08	31.789	6.85	.24			.2	0	14.08	31.79	23.72	419.2	0
10	11.31	32.373	7.24	.58			.2	10	11.31	32.38	24.71	325.6	.037
50	7.49	32.823	5.24	1.33			13.6	20	9.64	32.61	25.18	280.9	.048
100	7.42	33.747	3.35	1.93			24.2	30	8.45	32.77	25.49	251.7	.134
150	6.84	33.973	2.02	2.64			32.0	50	7.49	32.83	25.67	234.5	.143
								75	7.46	32.30	26.02	201.4	.197
								100	7.42	32.75	26.35	170.9	.244
								150	6.84	33.97	26.66	141.4	.322
DB 10 44 52.0 N 124 19.5 W DATE 09 AUG 69 1920 SCT WIRE 00 DRY 61.0 WET 58.5 CRUISE C6900A WIND DIRECTION VEL 00 KTS BAR 18 SWELL DIRECTION 33 M 03 T CLCUD 6 AMT WEATHER 02													
0	13.03	31.888	7.03	.35			1.5	0	13.03	31.89	24.01	391.9	0
10	8.89	32.446	4.85	.60			1.5	10	8.49	32.45	25.17	281.7	.034
50	7.69	33.243	4.36	1.73			19.8	20	8.59	32.76	25.46	254.1	.040
100	7.43	33.888	1.94				27.7	30	8.29	32.00	25.69	232.1	.045
125	6.99	33.953	1.79	2.44			27.8	50	7.69	32.25	25.97	205.0	.129
								75	7.53	32.63	26.10	174.7	.176
								100	7.44	32.89	26.51	154.1	.217
DB 5 44 50.4 N 124 12.3 W DATE 09 AUG 69 2015 SCT WIRE 00 DRY 61.0 WET 58.5 CRUISE C6900A WIND DIRECTION VEL 00 KTS BAR 21 SWELL DIRECTION 33 M 03 T 08 CLCUD 6 AMT * WEATHER 02													
0	13.02	31.978	7.74	.29			.8	0	13.02	31.98	24.06	385.1	0
10	9.35	32.519	5.64	1.15			10.0	10	9.15	32.52	25.15	283.1	.033
25	7.61	32.987	4.19	1.89			21.1	20	7.46	32.85	25.44	237.7	.049
50	7.70	33.734	2.65	2.38			29.1	30	7.63	32.16	25.91	211.4	.042
76	7.14	33.970	2.22	2.52			31.9	50	7.70	32.74	26.36	169.1	.120
								75	7.17	32.92	26.57	149.0	.140
DB 1 44 48.7 N 124 04.0 W DATE 09 AUG 69 2120 SCT WIRE 00 DRY 62.1 WET 58.1 CRUISE C6900A WIND DIRECTION VEL 00 KTS BAR 20 SWELL DIRECTION 33 M 03 T 10 CLCUD 6 AMT * WEATHER 02													
0	11.08	31.820	6.30	1.18			12.0	0	11.08	31.82	24.32	362.4	0
10	8.63	32.264	3.60					10	8.43	32.27	25.85	217.1	.024
15	8.42	32.537	3.35	2.13			24.7	20	8.00	32.72	26.29	174.9	.049
25	7.53	33.831	2.49	2.21			26.8	30	7.18	32.91	26.57	149.1	.045
30	7.17	33.904	2.10	2.27			26.8						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		(σ_{10}^2)	(dyn/cm)
CHAS 1 43 54.0 N 127 10.0 W DATE 19 AUG 69 0527 GCT WIRE 00 DRY WET CRUISE Y690AF														
WIND DIRECTION 2A VEL 7A KTS BAR 14 SWELL DIRECTION 1 29 H 05 T 10 CLOUD 8 AMT 7 WEATHER														
2335	1.76	34.633	1.83	2.93	7.600	2.499		177						
2534	1.79	34.642	1.92	2.91	7.612	2.500		174						
2634	1.74	34.643	2.03	.91	7.615	2.49		177						
2643	1.72	34.639	2.07	2.84	7.619	2.500		168						
2733	1.73	34.643	2.09	2.89	7.615	2.503		177						
2783	1.70	34.643	2.14	2.89	7.622	2.500		177						
2833	1.71	34.642	2.16	2.73	7.624	2.504		180						
2883	1.70	34.650	2.23	2.81	7.625	2.505		177						
2932	1.68	34.654	2.27	2.89	7.627	2.507		176						
2982	1.65	34.653	2.31	2.91	7.631	2.509		178						
3002	1.69	34.654	2.30	2.89	7.631	2.505		176						
3017	1.67	34.653	2.31	2.81	7.631	2.505		177						
3026				2.82	7.631	2.509		181						
3029				2.79	7.632	2.507		183						
3031				2.67	7.631	2.509		178						
3032				2.89	7.631	2.505		179						

CHAS 2 44 04.4 N 124 32.3 W DATE 23 AUG 69 0527 GCT WIRE 00 DRY WET CRUISE Y690AF														
WIND DIRECTION VEL KTS BAR SWELL DIRECTION H T CLOUD AMT WEATHER														
1957	1.93	34.595	1.39	2.99	7.544	2.481		176						
2155	1.93	34.607	1.63	2.99	7.564	2.482		180						
2353	1.78	34.619	1.78	2.96	7.570	2.489		186						
2452	1.78	34.639	1.81		7.584	2.498		188						
2552	1.76	34.642	1.83	2.90	7.590	2.499		202						
2601	1.76	34.641	1.86	2.95	7.593	2.502		202						
2651	1.74	34.644	1.86	2.99	7.595	2.501		194						
2674	1.76	34.647	1.94	3.00	7.598	2.505		200						
2690	1.74													
2705	1.71	34.644		2.95	7.603	2.506		191						
2720	1.75	34.644		2.89	7.603	2.507		197						
2735	1.72	34.646	1.96	2.91	7.603	2.507		193						
2791				2.96	7.605	2.503		194						
2794				2.99	7.605	2.505		196						
2794				2.99	7.607	2.501		188						
2797				2.99	7.605	2.505		192						

CHAS 3 44 38.2 N 129 09.2 W DATE 24 AUG 69 1257 GCT WIRE 03 DRY WET CRUISE Y690AF														
WIND DIRECTION VEL KTS BAR SWELL DIRECTION H T CLOUD AMT WEATHER														
1617	2.19	34.556	0.96	3.15	7.497	2.467		172						
1815	2.02	34.587	1.28	3.12	7.521	2.475		174						
2012	1.90	34.605	1.55	3.04	7.545	2.484		179						
2211	1.81	34.618	1.75	2.96	7.566	2.485		180						
2409	1.79	34.638	1.88	2.99	7.581	2.488		185						
2458	1.78	34.634	2.04	2.97	7.584	2.487		185						
2508	1.77	34.634	2.00	2.94	7.584	2.485		174						
2558	1.76	34.635	1.97	2.97	7.588	2.481		180						
2577	1.79	34.636	1.99	2.95	7.584	2.488		187						
2592	1.77	34.637	1.93	2.95	7.588	2.484		190						
2601		34.634		2.96	7.590	2.488		187						
2604				2.98	7.591	2.494		185						
2606		34.633		2.97	7.591	2.492		185						
2607		34.636		2.97	7.590	2.484		185						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		(σ_{10}^0)	(dyn/cm)
CHAS 4 44 11.0 N 127 04.9 W DATE 25 AUG 69 21 30 CT WIRE 00 DRY CRUISE Y690AF														
WIND DIRECTION	VEL	KTS	BAR	SWELL DIRECTION	M	T	CLCUD	AMT	WET	WEATHER				
1764	2.79	34.501	1.16	3.11	7.521	2.483		171						
1962	1.96	34.594	1.42	3.08	7.545	2.488		174						
2160	1.80	34.634	1.63	3.04	7.561	2.488		178						
2354	1.44	34.614	1.82	3.01	7.574	2.490		178						
2557	1.84	34.621	1.79	2.99	7.581	2.492		181						
2606	1.84	34.621	1.83	2.98	7.581	2.488		176						
2656	1.84	34.623	1.86	3.00	7.581	2.490		172						
2704	1.84	34.620	1.87	2.99	7.581	2.490		178						
2725	1.85	34.618	1.91	3.01	7.581	2.492		176						
2740	1.84	34.620	1.86	2.99	7.583	2.493		177						
2753		34.619		2.98	7.582	2.490		174						
2756		34.617		2.98	7.583	2.492		174						
2758		34.615		3.04	7.582	2.491		174						
2754		34.616		3.14	7.582	2.510		165						

CHAS 5 44 35.0 N 125 27.6 W DATE 28 AUG 69 1604 1CT WIRE 00 DRY CRUISE Y690AF														
WIND DIRECTION	VEL	KTS	BAR	SWELL DIRECTION	M	T	CLCUD	AMT	WET	WEATHER				
1059	3.40	34.423	0.39	3.24	7.451	2.442		132						
1456	2.63	34.514	0.81	3.12	7.444	2.463		154						
1853	2.04	34.574	1.29	3.05	7.530	2.484		173						
2050	1.86	34.601	1.63	2.95	7.564	2.490		178						
2248	1.79	34.624	1.84	2.95	7.581	2.494		182						
2447	1.76	34.632	1.91	2.91	7.593	2.497		186						
2645	1.74	34.639	2.02	2.92	7.607	2.505		185						
2695	1.73	34.640		2.91	7.607	2.503		183						
2744	1.72	34.642			7.608	2.502		192						
2794	1.72	34.642	2.07	2.91	7.607	2.504		194						
2814	1.74	34.643		2.97	7.606	2.505		195						
2829	1.71	34.642	2.07	3.00	7.607	2.505		194						
2838		34.642		3.02	7.607	2.504		193						
2841		34.641		3.05	7.608	2.506		193						
2843		34.639		3.01	7.607	2.505		190						

CHAS 6 44 26.4 N 127 13.0 W DATE 29 AUG 69 1439 4CT WIRE 00 DRY CRUISE Y690AF														
WIND DIRECTION	VEL	KTS	BAR	SWELL DIRECTION	M	T	CLCUD	AMT	WET	WEATHER				
2279	1.82	34.624	1.75	2.92	7.573	2.489		180						
2478	1.75	34.637	1.85	2.92	7.584	2.494		180						
2676	1.74	34.644	2.03	2.90	7.594	2.494		181						
2774	1.72	34.644	2.05	2.85	7.602	2.501		182						
2825	1.73	34.648	2.07	2.88	7.603	2.499		184						
2875	1.72	34.651	2.04	2.87	7.607	2.501		186						
2924	1.72	34.653	2.12	2.82	7.610	2.503		185						
2974	1.71	34.654	2.21	2.80	7.617	2.496		183						
3024	1.69													
3073	1.68	34.654	2.29	2.82	7.622	2.494		179						
3093	1.70	34.655	2.30	2.82	7.623	2.494		177						
3107	1.67	34.654	2.29	2.80	7.623	2.492		180						
3116		34.655		2.82	7.619	2.497		180						
3119		34.655		2.81	7.620	2.496		175						
3121		34.654		2.72	7.621	2.491		179						
3122		34.651		2.80	7.619	2.502		177						

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		(10 ³)	(dyn/cm)
NM 35 44 39.1 N 124 52.6 W DATE 19 AUG 49 1512 OCT WIRE 04 DRY 59.5 WFT 58.2 CRUISE C690RC													
WIND DIRECTION 18 VEL 00 KTS BAR 13 SWELL DIRECTION 12 M 06 T 09 CLOUD 6 AMT 7 WEATHER 02													
0	15.16	31.068	4.38				.1	0	15.14	31.05	22.93	495.2	0
5	15.06	31.010	4.34	.24			.8	10	14.43	32.07	23.78	414.4	.045
10	14.31	32.651	4.48	.28			1.1	20	9.79	32.95	24.42	258.2	.079
20	8.79	32.949	7.19	.39			.7	30	8.75	31.24	25.81	221.0	.103
30	8.75	33.239	4.88	.54			5.5	40	8.03	31.72	26.29	175.7	.143
40	8.24	33.412	4.45	.83			7.6	50	8.03	31.72	26.42	161.7	.185
50	8.03	33.713	4.02	.95			8.7	75	7.94	31.47	26.57	150.4	.226
61	7.88	33.742	5.74	1.19			13.0	100	8.06	31.91	26.60	148.1	.279
74	7.43	33.461	5.09					150	7.39	31.95	26.71	134.1	.441
101	6.45	33.418	3.88	1.67			24.5	200	7.15	31.95	26.84	126.4	.617
126	7.73	33.540	3.42	1.86			24.9	250	6.69	34.02	26.95	117.5	.639
151	7.37	33.450	3.09	1.92			30.7	300	6.18	34.09			
202	7.14	33.952	2.25					400	5.60	34.14			
303	6.15	34.599	1.55	2.56			38.4						
404	5.59	34.138	1.14	2.72			41.0						

NM 45 44 39.0 N 125 05.2 W DATE 19 AUG 49 1826 OCT WIRE 07 DRY 63.5 WFT 60.7 CRUISE C690RC													
WIND DIRECTION 19 VEL 10 KTS BAR 14 SWELL DIRECTION 11 M 04 T 10 CLOUD 3 AMT 4 WEATHER 02													
0	16.15	31.075	5.94				.8	0	16.15	31.08	22.73	513.9	0
5	15.76	31.079	5.97				.6	10	15.92	31.08	22.78	509.2	.051
10	15.52	31.076	5.96	.14			.1	20	12.19	32.34	24.52	343.9	.094
20	12.19	32.337	6.91	.36			.1	30	9.88	32.49	25.07	291.3	.126
30	9.88	32.442	7.21	.47			.8	40	8.43	32.54	25.31	269.7	.182
40	8.43	32.538	6.38	.80				50	8.43	32.54	25.74	228.0	.244
50	7.59	32.717	5.46	1.15			13.8	75	7.59	32.94	25.11	193.7	.296
61	7.40	33.400	4.44	1.49			21.5	100	7.60	33.41	24.50	154.9	.384
74	7.46	33.730	4.28	1.86			23.6	150	7.46	33.88	24.40	148.5	.460
100	7.44	33.879	3.86	1.66			25.8	200	6.93	33.91	24.49	140.1	.532
126	6.72	33.903	3.42	1.86			27.5	250	6.22	33.91	24.78	132.2	.600
150	5.56	34.052	1.19	2.42			32.0	300	5.64	34.06	24.89	122.9	.728
179	5.20	34.139	.76	2.92			42.6	400	5.57	34.06	27.00	112.4	.846
200	4.75	34.227	.40	3.02			44.0	500	5.20	34.14	27.12	107.5	.953
400								600	4.75	34.23			

NM 65 44 39.0 N 125 35.1 W DATE 20 AUG 49 0120 OCT WIRE 06 DRY 66.0 WFT 62.0 CRUISE C690RC													
WIND DIRECTION 22 VEL 04 KTS BAR 14 SWELL DIRECTION 29 M 06 T 09 CLOUD 3 AMT 2 WEATHER 01													
0	17.38	31.701	5.79	.23			.3	0	17.38	31.71	22.93	495.1	0
10	16.36	31.753	5.83	.24			.3	10	16.86	31.76	23.09	480.0	.049
20	11.47	32.443	7.09	.38			1.4	20	14.38	32.10	23.90	403.2	.093
30	8.53	32.539	6.68	.42			2.8	30	11.47	32.47	24.75	322.1	.129
40	7.74	32.608	6.33	.90			9.6	40	8.46	32.54	25.31	269.1	.188
50	7.74	33.178	4.99	1.30			18.3	50	8.46	32.54	25.48	253.1	.254
61	7.63	33.543	4.27	1.54			23.4	75	7.74	32.63	25.91	212.7	.312
74	7.40	33.838	3.33	1.78			29.4	100	7.79	33.18	25.38	184.1	.407
99	7.06	33.941	3.72	1.84			35.7	150	7.89	33.81	24.61	147.4	.486
126	6.13	34.059	1.92	2.44			41.2	200	7.05	33.96	24.74	135.4	.557
149	5.03	34.140	1.14	2.93			44.0	250	6.50	34.02	24.82	128.2	.622
179	4.67	34.272	.47	2.97			45.5	300	6.12	34.06	26.95	117.4	.765
196	4.35	34.331	.30	3.16			43.0	400	5.62	34.14	27.06	106.4	.857
200	3.62	34.448	.51				41.9	500	5.12	34.21	27.16	98.0	.959
1196	3.22	34.535	.59	3.13				600	4.66	34.27	27.25	90.0	1.053
								700	4.32	34.34	27.33	83.2	1.140
								800	4.04	34.39	27.45	72.8	1.296
								1000	3.61	34.49	27.52	65.4	1.434
								1200	3.21	34.54			

NM 85 44 39.0 N 124 03.3 W DATE 20 AUG 49 1255 OCT WIRE 03 DRY 63.0 WFT 62.8 CRUISE C690RC													
WIND DIRECTION 20 VEL 14 KTS BAR 12 SWELL DIRECTION 30 M 06 T 03 CLOUD 6 AMT 7 WEATHER 03													
0	17.35	32.118	5.72	.18			.1	0	17.35	32.12	21.25	464.0	0
10	17.32	32.130	4.91	.28			.1	10	17.32	32.13	21.26	461.4	.046
20	17.13	32.171	5.63	.22			.1	20	17.22	32.12	21.28	461.4	.093
30	11.21	32.711	7.29	.33			.7	30	17.13	32.13	21.31	440.7	.139
40	9.71	32.749	6.45	.92			5.8	40	11.07	32.72	21.02	294.9	.214
50	9.19	32.420	5.95	.96			11.4	50	9.68	32.75	21.28	272.4	.285
61	9.11	33.312	4.44	1.28			16.9	75	9.30	32.83	21.38	263.0	.352
74	8.45	33.440	3.43	1.83			24.6	100	8.83	33.10	21.15	240.4	.446
99	7.47	33.226	3.10	2.04			28.7	150	7.94	33.03	21.47	181.7	.554
126	6.67	34.110	2.46	2.18			33.0	200	7.24	34.00	21.63	148.4	.630
149	6.49	34.242	1.53	2.49			37.4	250	6.64	34.01	21.71	118.0	.702
179	6.09	34.216	.60	3.22			41.0	300	6.04	34.08	21.87	104.7	.834
196	4.21	34.452	.32	3.29			44.8	400	5.19	34.15	21.01	111.9	.952
200	3.72	34.439	.32					500	4.68	34.22	21.12	102.1	1.049
1195	3.26	34.508	.44	3.12			44.7	600	4.40	34.29	21.21	94.4	1.157
								700	4.20	34.35	21.28	84.0	1.248
								800	3.71	34.44	21.40	77.4	1.314
								1000	3.25	34.51	21.50	68.2	1.459
								1200					

OBSERVED

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D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (ml/l) (μM) (meq/l) (μM)

E T S σ_t S ΔD
(m) (°C) (‰) (10³) (dyn/cm)

NM 104 44 34.9 N 124 30.5 W DATE 20 AUG 69 1741 GCT WIRE 00 DRY 44.8 WET 42.8 CRUISE C490RC
WIND DIRECTION 24 VEL 04 KTS BAR 14 SWELL DIRECTION 10 M 05 T 07 CLSD 6 AMT 4 WEATHER 01

0	17.37	31.983	5.59	.19		
10	17.31	31.991	5.65	.16		
20	15.75	32.359	6.23	.23		
30	10.61	32.694	7.70	.30		
40	9.55	32.750	4.19	.75		
50	9.38	33.073	5.07	1.22		
60	9.17	33.520	7.56	1.71		
70	8.40	33.759	7.12	1.89		
80	7.97	33.929	2.95	1.78		
90	6.62	34.061	2.21	2.58		
100	5.70	34.079	1.53			
110	4.76	34.025	.55	3.05		
120	4.17	34.157	.44	3.30		
130	3.81	34.421	.37	3.24		
140	3.22	34.521	.43	3.14		

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0	17.38	31.99	23.15	474.3	0
10	17.33	32.00	23.16	473.1	.047
20	16.91	32.15	23.14	452.9	.094
30	15.75	32.36	23.80	412.2	.137
40	10.40	32.70	25.10	249.0	.207
50	9.34	32.76	25.31	269.5	.277
60	9.34	31.04	25.54	243.4	.341
70	8.44	31.76	26.20	194.3	.448
80	7.95	31.93	26.47	141.1	.535
90	7.21	34.01	26.64	145.4	.612
100	6.61	34.04	26.74	135.9	.642
110	5.69	34.08	26.89	122.7	.611
120	5.11	34.15	27.01	111.1	.928
130	4.73	34.23	27.12	102.3	1.075
140	4.41	34.30	27.21	93.2	1.133
150	4.16	34.36	27.29	87.2	1.223
160	3.40	34.42	27.37	80.0	1.391
170	3.21	34.52	27.51	66.7	1.577

NM 125 44 39.0 N 124 59.0 W DATE 20 AUG 69 2142 GCT WIRE 00 DRY 62.8 WET 62.4 CRUISE C490RC
WIND DIRECTION VEL 00 KTS BAR 15 SWELL DIRECTION 27 M 06 T 15 CLSD 6 AMT 7 WEATHER 01

0	18.07	31.842	5.73	.18		
10	17.56	31.939	5.72	.15		
20	15.87	32.306	6.19	.25		
30	10.38	32.474	7.37	.40		
40	8.53	32.513	6.71	.63		
50	8.07	32.705	6.03	1.04		
60	7.44	33.222	4.91	1.44		
70	7.42	33.646	7.96	1.73		
80	7.39	33.945	2.98	2.15		
90	6.22	34.034	2.07	2.42		
100	5.74	34.122	1.20	2.84		
110	4.43	34.255	.48			
120	4.12	34.375	.32	2.90		
130	3.47	34.453	.40	2.87		
140	3.16	34.442	.40	3.24		

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0	18.07	31.85	22.87	500.6	0
10	17.56	31.94	23.07	482.1	.049
20	17.01	32.12	23.33	457.0	.096
30	15.86	32.31	23.74	418.4	.140
40	10.38	32.48	24.45	303.0	.212
50	8.53	32.52	25.27	272.4	.244
60	8.07	32.71	25.49	251.9	.349
70	7.43	33.67	26.27	179.1	.457
80	7.41	33.94	26.56	152.3	.540
90	6.74	34.03	26.71	138.5	.613
100	6.23	34.03	26.79	131.6	.640
110	5.75	34.12	26.92	120.5	.606
120	5.33	34.19	27.02	110.6	.922
130	4.94	34.25	27.12	102.4	1.028
140	4.52	34.32	27.21	93.4	1.127
150	4.13	34.37	27.30	85.5	1.216
160	3.68	34.45	27.41	76.4	1.378
170	3.17	34.48	27.48	69.4	1.524

NM 145 44 39.0 N 127 27.0 W DATE 21 AUG 69 0157 GCT WIRE 06 DRY 67.2 WET 63.1 CRUISE C490RC
WIND DIRECTION 28 VEL 04 KTS BAR 14 SWELL DIRECTION 27 M 09 T 09 CLSD 6 AMT 5 WEATHER 01

0	18.24	31.198	5.73			
10	17.48	31.197	5.81	.16		
20	15.53	32.213	6.33	.22		
30	11.78	32.488	6.47	.33		
40	8.68	32.512	6.43	.50		
50	7.73	32.551	6.18	.66		
60	8.15	33.195	4.76	1.36		
70	7.52	33.542	4.23	1.90		
80	7.44	33.947	2.84	2.14		
90	6.39	34.029	1.99	2.54		
100	5.48	34.065	1.34	2.85		
110	4.54	34.221	.41	3.11		
120	4.13	34.141	.31	3.26		
130	3.49	34.459	.32	3.23		
140	3.19	34.509	.44			

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0	18.25	31.20	22.34	551.4	0
10	17.48	31.20	22.47	543.5	.055
20	16.94	31.67	23.00	488.4	.106
30	15.53	32.22	23.74	418.2	.152
40	11.42	32.49	24.74	373.2	.226
50	8.81	32.51	25.23	276.4	.301
60	7.94	32.56	25.39	261.4	.368
70	7.81	33.57	26.21	194.4	.440
80	7.63	33.95	26.53	155.0	.465
90	7.05	33.99	26.64	144.9	.639
100	6.37	34.03	26.77	133.6	.709
110	5.47	34.07	26.91	121.1	.936
120	4.90	34.14	27.03	109.3	.952
130	4.53	34.22	27.14	100.3	1.056
140	4.10	34.30	27.22	92.7	1.153
150	4.13	34.36	27.29	84.4	1.242
160	3.68	34.46	27.42	75.4	1.405
170	3.18	34.51	27.40	67.4	1.548

NM 165 44 39.1 N 127 55.2 W DATE 21 AUG 69 0645 GCT WIRE 00 DRY 62.0 WET 57.0 CRUISE C490RC
WIND DIRECTION 28 VEL 04 KTS BAR 14 SWELL DIRECTION 29 M 04 T 08 CLSD 6 AMT 1 WEATHER 02

0	17.40	32.145	5.62	.40		
10	17.54	32.194	5.70	.40		
20	15.54	32.509	5.85	.46		
30	11.75	32.514	6.91	.30		
40	8.91	32.512	6.92	.40		
50	7.26	32.546	6.45	.85		
60	7.55	32.988	4.51	1.84		
70	7.61	33.417	4.75			
80	7.19	33.885	7.54	1.72		
90	5.45	33.771	2.48	2.43		
100	5.00	34.024	1.69	2.57		
110	4.44	34.248	.42	2.80		
120	3.46	34.155	.47	3.10		
130	3.49	34.464	.40	3.22		
140	3.07	34.513	.52	3.26		

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0	17.50	32.15	23.24	465.5	0
10	17.54	32.20	23.27	451.1	.046
20	16.45	32.35	23.55	414.4	.091
30	15.54	32.51	23.67	394.4	.133
40	11.35	32.52	24.41	314.4	.204
50	8.45	32.53	25.24	274.7	.278
60	7.44	32.60	25.44	257.1	.345
70	7.41	33.42	26.12	193.1	.458
80	7.20	33.44	26.54	154.1	.544
90	6.60	33.93	26.65	141.5	.619
100	5.96	33.97	26.77	132.9	.644
110	5.01	34.02	26.91	118.7	.914
120	4.51	34.13	27.06	104.4	.926
130	4.44	34.25	27.17	97.5	1.028
140	4.20	34.31	27.24	90.7	1.122
150	3.94	34.35	27.30	84.2	1.210
160	3.50	34.44	27.44	71.5	1.344
170	3.04	34.51	27.52	64.0	1.504

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^4$)	(dyn/m)
NH 185 44 39.2 N 127 21.8 W DATE 21 AUG 69 1230 ACT WIRE 07 DRY 62.2 WET 54.5 CRUISE C6908C													
WIND DIRECTION 21 VEL 12 KTS BAR SWELL DIRECTION 29 H 06 T 09 CLCUD 6 AMT 2 WEATHER 03													
0	17.49	31.924	5.68	.28			.1	0	17.50	31.93	23.07	491.3	0
10	17.55	31.978	5.62	.13				10	17.55	31.98	23.10	479.0	.048
30	16.24	32.442	5.84	.41			.2	20	17.27	32.23	23.35	454.9	.095
49	11.15	33.469	7.13	.31				30	16.24	32.49	23.79	411.7	.138
74	8.45	32.491	6.64	.73			2.8	50	10.98	32.47	24.84	311.8	.211
99	7.67	32.931	5.39	1.11			13.4	75	8.39	32.50	25.28	271.4	.244
124	7.66	32.484	4.22	1.41			18.0	100	7.66	32.96	25.74	227.9	.246
149	7.49	32.689	4.01	1.85			24.6	150	7.48	32.69	26.35	171.1	.446
199	6.80	32.892	3.91					200	6.79	32.89	26.60	147.7	.526
294	5.71	32.970	2.29	2.42			32.1	250	6.18	32.96	26.74	135.4	.497
397	5.18	32.028	1.51	2.92			40.7	300	5.70	33.97	26.80	129.5	.463
494	4.70	32.206	.50	3.35			42.7	400	5.16	34.03	26.92	120.0	.788
795	3.49	32.351	.32	3.40			44.1	500	4.68	34.12	27.04	104.3	.402
994	3.49	32.430	.33	3.13			45.0	600	4.29	34.21	27.15	98.4	1.705
1192	3.06	32.496	.52					700	4.06	34.29	27.24	90.5	1.799
								800	3.88	34.35	27.31	84.3	1.187
								1000	3.48	34.43	27.41	75.5	1.746
								1200	3.04	34.50	27.51	66.6	1.488

A 1 44 48.5 N 127 05.6 W DATE 21 AUG 69 1600 ACT WIRE 05 DRY 62.0 WET 57.0 CRUISE C6908C													
WIND DIRECTION 21 VEL 07 KTS BAR 20 SWELL DIRECTION 29 H 04 T 08 CLCUD 8 AMT 2 WEATHER 01													
0	17.35	32.262	5.62	.41			.7	0	17.35	32.27	23.36	453.5	0
5	17.35	32.256	5.62	.45			1.3	10	17.25	32.39	23.48	442.3	.045
10	17.25	32.389	4.70	.50			1.6	20	17.19	32.43	23.53	438.6	.049
20	17.18	32.422	4.70	.42			2.9	30	16.53	32.51	23.74	418.5	.132
30	16.53	32.503	4.85	.52			.4	50	10.20	32.53	25.02	296.3	.203
40	12.77	32.512	4.85	.46			.2	75	8.33	32.55	25.33	267.2	.274
50	10.20	32.529	7.19				1.0	100	7.44	32.66	25.54	247.2	.238
61	9.14	32.530	7.15	.43				150	7.49	33.63	26.30	176.2	.444
75	8.33	32.544	6.64	.73			2.1	200	6.93	33.85	26.55	152.6	.526
100	7.44	32.651	6.26	1.05			8.6						
125	7.32	33.040	5.84	1.33			14.8						
150	7.49	33.624	4.43	1.51			21.7						
175	7.31	33.772	3.54	1.67			23.7						
200	6.93	33.854	3.54	2.71			27.9						

A 2 44 58.0 N 127 51.3 W DATE 21 AUG 69 1917 ACT WIRE 05 DRY 64.5 WET 59.5 CRUISE C6908C													
WIND DIRECTION 35 VEL 07 KTS BAR 21 SWELL DIRECTION 29 H 05 T 08 CLCUD 8 AMT 2 WEATHER 02													
0	17.59	32.049	5.62	.37			.8	0	17.59	32.05	23.14	474.5	0
5	17.52	32.003	5.62	.48				10	17.44	32.05	23.17	472.0	.047
200	7.16	32.848	3.49					20	17.31	32.14	23.28	461.0	.094
10	17.48	32.036	4.55	.41			.1	30	17.11	32.01	23.22	457.7	.140
20	17.06	32.391	4.71	.47			.1	50	16.59	32.06	23.39	452.7	.233
30	16.43	32.488	5.93	.49			.1	75	15.70	32.19	23.68	424.7	.342
40	12.49	32.446	6.62				.1	100	14.53	32.39	24.09	386.9	.444
50	10.42	32.454	7.03	.39			.1	150	11.39	32.98	25.16	285.0	.412
61	9.06	32.476	7.18	.47			.1	200	7.17	33.85	26.52	155.8	.722
75	8.43	32.483	4.58	.51									
100	7.58	32.664	4.99	.94			10.8						
125	7.48	33.063	4.18	1.20			16.4						
150	7.59	33.508	4.20	1.45			23.7						
175	7.46	33.749	3.73	2.00			26.8						

A 3 45 05.3 N 127 35.2 W DATE 21 AUG 69 2216 ACT WIRE 10 DRY 61.9 WET 58.5 CRUISE C6908C													
WIND DIRECTION 31 VEL 12 KTS BAR 22 SWELL DIRECTION 29 H 05 T 10 CLCUD 8 AMT 2 WEATHER 02													
0	18.04	31.391	5.70				.2	0	18.04	31.40	22.53	532.8	0
5	18.03	31.394	5.71					10	17.77	31.56	22.72	515.2	.052
10	17.77	31.551	4.77	.37			.5	20	17.60	31.81	22.96	497.7	.103
20	17.40	31.809	4.77	.34			.2	30	16.36	31.95	23.21	468.5	.151
30	16.96	31.944	4.85	.30			.6	50	10.98	32.47	24.84	314.1	.229
40	13.33	32.405	6.65	.47			1.5	75	8.52	32.51	25.27	272.7	.302
50	10.48	32.443	7.03	.54			.1	100	7.64	32.54	25.45	255.4	.368
61	9.56	32.474	7.13	.54			.1	150	7.39	32.43	25.16	189.4	.480
75	8.52	32.504	4.62	.67			3.0	200	7.29	32.81	25.47	160.3	.447
100	7.67	32.580	4.38	1.37			8.8						
125	7.27	32.845	4.70	1.67			14.3						
150	7.38	32.426	4.68	1.53			22.4						
175	7.43	32.644	4.20	1.77			24.2						
200	7.29	33.015	4.21	1.70			25.4						

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A	44 01.8 N	126 07.2 W	DATE 22 AUG 69	1830 ICT	WIRE 04	DRY 62.0	WET 59.0	CRUISE C6908C
WIND DIRECTION	00	VEL 17 KTS	BAR 14	SWELL DIRECTION	29 H	05 I	R CLUD	AMT 3 WEATHER 01
0	17.03	31.979	5.74		0	17.03	31.98	23.27 467.1 0
5	17.02	31.990	5.76		10	17.03	31.99	23.23 466.7 .047
10	17.03	31.987	5.81		20	16.38	32.01	23.19 451.3 .093
20	16.38	32.006	5.85		30	10.45	32.50	24.88 304.1 .131
30	10.45	32.444	7.44		40	8.29	32.53	25.32 267.7 .188
40	9.30	32.532	7.36		75	8.17	32.43	25.65 216.4 .251
50	8.29	32.525	6.61		100	8.24	32.50	26.00 203.4 .306
60	8.12	32.621	6.14		150	8.65	32.42	26.77 179.0 .402
75	8.17	32.427	5.29		200	8.03	32.40	25.44 164.2 .448
100	8.24	32.545	7.55					
125	8.44	32.709	3.06					
150	8.65	32.811	2.77					
175	8.16	32.479	2.61					
200	8.03	32.904	2.50					

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H 10 46 06.3 N 125 11.0 W		DATE 23 AUG 69 0140 OCT		WIDE 04 DRY 62.5		WET 59.2		CRUISE C6908C			
WIND DIRECTION 34 VEL 12 KTS		BAR		SWELL DIRECTION 29 H 06 T 08 CLUD		AMT 0		WEATHER 02			
0	15.95	31.807	4.19			0	15.95	31.81	23.34	454.1	0
5	15.94	31.803	6.17			10	15.94	31.81	23.36	454.4	.046
10	15.84	31.801	6.22	.33	.6	20	12.02	32.13	24.39	354.3	.086
20	12.02	32.127	4.79	.53	.8	30	8.70	32.42	25.17	281.6	.118
30	4.70	32.413	4.64			40	7.55	32.57	25.46	254.5	.172
40	8.05	32.459	4.34			50	7.54	32.563	25.49	213.7	.230
50	7.54	32.563	6.03			75	7.63	33.13	26.17	187.3	.290
61	7.41	32.713	4.65			100	8.04	33.57	24.48	158.5	.367
75	7.62	33.130	4.81	1.29	17.8	150	7.57	33.88	26.63	144.6	.443
100	8.04	33.568	4.61	2.22	22.3	200	6.93	33.95			
125	7.41	33.785	4.17	2.70	29.2						
150	7.56	33.875	2.98								
175	7.14	33.932	2.69								
200	6.93	33.948	2.61	2.45	28.5						

M 11	46 07.1 N	124 56.0 W	DATE 23 AUG 69	0405Z	ACT	WIRE 05	DRY 60.4	WET 57.3	CWUISE C690AC
WIND DIRECTION 33	VEL 14 KTS	BAR	SWELL DIRECTION 30	M 06	T 08	CLOUD 7	AMT	WEATHER 03	
0	15.76	31.796		0	15.76	31.40	23.37	452.9	0
5	15.73	31.794	6.03	10	15.40	31.83	23.47	443.4	.045
10	15.40	31.825	6.15	20	9.56	32.38	25.01	297.2	.082
20	9.56	32.375	6.72	30	8.07	32.46	25.30	269.4	.110
30	8.07	32.456	6.57	50	7.42	32.54	25.45	255.2	.143
40	7.43	32.464	6.49	75	7.97	31.11	25.82	220.7	.222
50	7.41	32.531	6.33	100	7.90	31.06	26.26	178.8	.272
60	7.02	32.763	6.54	150	7.66	31.86	26.46	161.0	.357
75	7.97	33.101	6.67	200	7.09	33.95	26.61	147.4	.434
100	7.89	33.654	3.80						
120	7.94	33.400	3.40						
150	7.65	33.859	3.24						
175	7.35	33.904	3.02						
200	7.09	33.953	2.58						

B	12	46 09.7 M	124 41.1 M	DATE 23 AUG 69 0633 GCT	WIRE 00	DRY 54.8	WET 56.9	CRUISE C690RC			
WIND	DIRECTION	35 VEL	10 KTS	BAR 12	SWELL DIRECTION	29 H	06 T 08 CLCUD	AMT	Q WEATHER 01		
5	15.22	27.208	4.53			0	15.22	27.21	19.97	774.4	0
6	13.63	31.954	4.23			10	12.91	32.04	24.18	374.9	.058
10	12.41	32.077	6.42			20	8.45	32.48	25.20	274.7	.040
20	8.45	32.480	6.39			30	7.40	32.52	25.37	242.4	.117
30	7.49	32.517	6.40			50	7.31	32.64	25.55	214.7	.144
40	7.56	32.535	4.42	1.11	9.1	75	7.45	32.41	26.07	194.6	.224
50	7.30	32.634	4.09			100	7.34	31.81	26.7	154.1	.269
60	7.50	33.022	4.83			150	7.15	31.99	26.83	144.4	.347
75	7.45	33.402	4.17			200	6.82	34.04	26.71	137.3	.418
100	7.44	33.404	3.27								
124	7.74	33.903	3.13								
140	7.14	33.941	2.39	1.48	25.9						
174	6.45	34.027	2.52								
200	6.82	34.040	2.36								

B	11	46 09.8 M	124 26.6 W	DATE 23 AUG 69	1037 GCT	WPPF 04	DRY 54.0	WFT 54.0	CRUISE C6908C
WIND DIRECTION	35 VFL	14 FTS	BAR 10	SWELL DIRECTION	29 M	04 T	19 CLOUD	7 AMT	2 WEATHER 03
0	14.48	25.765	6.39	0	14.44	25.77	19.02	170.3	0
10	11.44	32.211	4.10	10	11.44	32.22	24.44	147.4	.161
20	8.40	32.425	3.84	20	8.40	32.63	25.41	241.4	.191
30	7.15	32.770	4.06	30	7.13	32.77	25.41	233.7	.116
40	7.02	32.944	5.14	40	7.13	32.92	24.10	147.4	.149
50	7.73	33.414	4.04	50	7.04	33.07	26.42	147.4	.203
60	7.45	33.654	3.58	60	7.07	34.00	26.45	142.0	.242
70	7.76	33.791	3.27						
80	7.54	33.844	2.93						
90	7.15	33.944	1.91						
100	7.06	33.994	1.89						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	3	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(days)

C 14 46 09.4 N 174 20.4 W DATE 23 AUG 69 1210 ACT WIRE ON DRY 5A.9 WET 5A.0 CRUISE C6909C
WIND DIRECTION 32 VEL 12 KTS BAR 10 SWELL DIRECTION 29 H 04 T 08 CLOUD 7 AMT 1 WEATHER 01

7	13.31	31.309	6.32			0	13.31	31.31	23.51	439.7	0
5	13.27	31.904	6.41	.40	2.4	10	10.07	32.46	24.38	261.4	.015
12	10.07	32.954	7.72	1.64	17.1	20	7.59	33.67	24.32	172.7	.057
15	7.47	33.511	1.96	2.22	27.1	30	7.48	33.81	26.44	160.4	.073
20	7.59	33.666	1.71								
25	7.56	33.757	2.35	2.27	32.1						
30	7.48	33.807	1.91	2.11	30.4						

C 15 46 07.3 H 124 23.2 M DATE 23 AUG 69 1401 ZCT WIRE 08 DRY 57.3 WET 55.5 CRUISE C690AC
WIND DIRECTION 34 VEL 11 KTS BAR 10 SWELL DIRECTION 29 H 04 T 09 CLUD 7 AMT 1 WEATHER 02

0	14.26	27.367	6.37		4.2	0	14.26	27.37	20.29	747.9	0
5	14.28	27.423	6.33	.64	6.0	10	13.15	31.97	24.34	344.7	.057
10	13.15	31.964	6.45	.58		20	8.97	37.53	25.22	274.9	.090
20	6.47	32.524	6.24	1.53	19.5	30	7.53	33.04	25.43	219.0	.115
33	7.52	33.033	3.98	2.55	24.9	50	7.46	11.73	26.38	167.0	.153
42	7.70	31.559	7.14		27.6	75	7.13	33.90	26.57	149.7	.193
50	7.44	33.724	2.31	2.40	29.8	100	6.78	13.97	26.46	140.7	.229
60	7.35	33.407	2.61	2.42	32.3						
70	7.15	33.879	1.56		35.6						
80	7.11	33.924	1.67	2.43	35.3						
90	6.97	33.943	1.62	2.45	34.4						
100	6.77	33.963	1.65								

C 16 46 03.5 N 124 35.3 W DATE 23 AUG 69 1615 ACT WIRE 11 DRY 59.7 WET 47.0 CRUISE C6908C
WIND DIRECTION 35 VEL 14 KTS BAR 10 SWELL DIRECTION 30 H 05 T 08 CLCUD 6 AMT 1 WEATHER 01

0	14.94	24.521	6.38	.95	3.2	0	14.94	24.53	17.97	970.9	0
5	14.59	28.210	6.32	.60	2.8	10	13.51	31.92	23.94	399.1	.768
10	13.51	31.915	6.12	.65	4.7	20	8.27	32.42	25.24	274.9	.102
20	8.27	32.419	5.76	1.15	10.7	30	7.67	32.51	25.40	260.1	.129
30	7.46	32.506	6.07	1.11	10.1	50	7.48	33.15	25.93	210.1	.176
40	7.50	32.749	5.54	1.27	14.0	75	7.55	33.60	26.27	177.7	.224
50	7.48	33.148	4.96	1.44	20.3	100	7.31	33.95	26.58	144.8	.265
61	7.36	33.352	4.43	1.71	24.0	150	6.52	34.05	26.77	131.6	.335
75	7.54	33.599	3.64	2.53	33.2						
100	7.30	33.948	1.47	2.72	35.9						
125	6.98	34.036	1.58								
150	6.52	34.055	1.61	2.85	38.1						

C 17 45 59.6 N 124 47.5 W DATE 23 AUG 69 1815 GCT WIRE 12 DRY 40.8 WET 48.2 CRUISE C690RC
WIND DIRECTION 35 VEL 11 KTS BAR 09 SWELL DIRECTION 30 H 05 T 08 CLUD 3 AMT 2 WEATHER 03

0	14.85	30.753	4.33	.43	1.2	0	14.85	30.76	22.77	510.5	0
5	14.96	31.733	6.01	.43	1.7	10	13.49	37.13	24.10	387.4	.045
10	13.49	32.124	4.38	.51	1.3	20	8.70	72.50	25.24	275.1	.078
20	8.70	32.497	4.87	.73	3.6	30	7.80	72.54	25.40	260.0	.104
30	7.79	32.532	4.38	.95	6.5	50	7.43	72.73	25.60	240.9	.154
40	7.53	32.562	6.39	1.01	7.9	75	8.02	73.40	26.04	199.5	.209
50	7.42	32.724	4.85		5.4	100	7.93	73.79	26.36	169.5	.256
61	7.52	33.029	5.14	1.59	15.2	150	7.54	74.00	26.58	149.2	.315
75	8.02	33.396	4.15	1.65	24.2	200	6.92	74.06	26.72	137.1	.407
100	7.42	33.746	3.44	2.23	27.6						
125	7.46	33.925	3.18		27.4						
150	7.35	33.999	2.88	2.51	31.7						
175	7.21	34.043	2.53								
200	6.92	34.060	2.29	2.40	34.9						

C 18 45 55.8 N 124 59.5 W DATE 23 AUG 69 2020 ACT WIRE 16 DRY 42.9 WET 40.7 CRUISE C690AC
WIND DIRECTION 35 VEL 11 KTS BAR 18 SWELL DIRECTION 29 H 05 T 08 CLSD 7 AMT 1 WEATHER 01

0	16.17	31.944	5.92	.29	.6	0	16.17	31.95	23.39	450.8	0
5	16.16	31.945	5.96	.36	.2	5	16.03	31.96	23.41	447.1	.045
10	16.03	31.956	6.00	.47	.6	10	13.93	32.06	23.96	397.0	.087
20	13.93	32.057	6.47	.42	.9	20	8.84	32.42	25.15	283.5	.121
30	8.84	32.416	6.66	.84	5.0	30	7.59	32.49	25.34	261.1	.176
40	6.08	32.443	6.42	1.02	8.9	40	6.02	32.05	25.77	225.6	.236
50	7.59	32.486	6.40	.96	7.8	50	8.50	32.56	26.47	195.0	.289
61	7.35	32.455	5.82	.90	10.8	61	7.69	32.48	26.47	180.0	.178
75	8.02	32.347	6.82	1.57	18.6	75	7.06	32.92	26.49	149.2	.455
100	8.50	32.454	7.80			100					
125	7.45	32.410	7.39	1.96	29.4	125					
150	7.68	32.478	7.02			150					
175	7.36		7.46	2.17	33.6	175					
200	7.06	32.923	7.08	2.60	32.6	200					

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0	24	45	25.9 H	124	05.4 W	DATE 25 AUG 69	1447	0CT	WIRE 03	DRY 57.2	WET 56.0	CRUISE C6908C		
WIND DIRECTION 18						VEL 07 KTS	BAR 22		SWELL DIRECTION 25 H		06 T 08	CLOUD 6 AMT	7 WEATHER	
1	13.89	30.990	4.29	.33			1.1		0	13.89	32.06	27.97	395.7	0
4	13.89	30.947	4.27	.65			1.7		10	13.50	32.06	24.05	388.4	.739
12	13.50		4.23	.41			2.7		20	10.21	32.21	24.77	319.7	.075
14	11.83		4.49						30	8.50	32.54	25.30	249.5	.106
20	10.21		4.34	1.36			15.3		50	7.47	32.94	25.79	222.4	.153
24	9.17		1.59						75	7.22	33.51	24.24	180.2	.204
30	8.54		3.16	1.90			22.2							
35	7.88		1.99											
41	7.57		1.63											
45	7.51		1.49											
50	7.47		1.57											
54	7.28													
63	7.21		1.74											
74	7.23		1.72	2.98			35.0							

[illegible]

E 27	45 15.1 N	124 34.5 W	DATE 25 AUG 69	2040 OCT	WIDE	DRY 63.3	WET 58.8	CRUISE C6908C
WIND DIRECTION	VEL	JO KTS	BAR 21	SWELL DIRECTION	26 M	07 T 09	CLCUD 8 AMT	2 WEATHER
0	16.06	31.915	4.91			0	16.06	31.92
5	15.52	31.911	4.93			10	15.38	31.94
10	15.77	31.933	4.02	.29	4	20	12.03	32.23
20	12.03	32.229	4.61			30	13.34	32.50
30	13.37	32.496	4.52			50	9.34	31.51
40	10.76	32.521	4.25			75	8.01	33.05
5	9.36	32.601	4.92	1.02	5.5	100	8.01	33.50
61	4.41	32.735	4.61	1.47	14.9	150	7.85	33.92
70	4.01	33.044	4.98			200	8.08	34.08
100	4.01	33.544	4.73	2.16	25.2			
120	4.07	33.856	4.17	1.75	27.0			
150	7.45	33.920	4.24	1.96	30.3			
200	4.08	34.084						

[illegible]

OBSERVED

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D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (ml/l) (μM) (meq/l) (μM)

Z T S σ_t S ΔD
(m) (°C) (‰) (x10³) (dyn/cm)

NH 68 44 39.5 N 124 34.5 W DATE 14 SEP 69 1433 ACT WIRE 04 DRY 54.9 WET 53.7 CRUISE Y4907A
WIND DIRECTION 35 VEL 12 KTS BAR 21 SWELL DIRECTION 10 M 05 T 04 CLOUD 0 AMT 0 WEATHER 02

197	6.92	33.925	2.81	2.29	7.74	2.28	29.5	0	17.42	31.84	23.02	486.5	0
202	6.84	33.931	2.81	2.44	7.73	2.28	30.2	10	17.74	31.84	23.04	484.9	.049
207	6.85	33.940	2.72	2.40	7.72	2.28	30.7	20	17.21	31.79	23.04	485.2	.097
212	6.79	33.935	2.69	2.41	7.84	2.31	30.4	30	16.10	31.95	23.41	490.2	.144
217	6.77	33.941	2.67	2.56	7.84	2.30	30.6	40	10.51	32.44	24.02	305.4	.219
222	6.71	33.952	2.63	2.48	7.83	2.30	30.6	50	9.47	32.60	25.19	280.7	.293
232	6.60	33.941	2.46	2.72	7.82	2.28	31.8	75	8.84	32.70	25.40	281.1	.360
237	6.44	33.957	2.50	2.51	7.81	2.28	31.0	100	8.84	32.69	26.15	191.1	.473
242	6.45	33.961	2.35	2.44	7.80	2.30	32.6	150	6.44	33.93	26.62	144.2	.558
247	6.33	33.951	2.46	2.39	7.81	2.30	32.9	200	6.33	33.95	26.71	138.2	.629
252	6.33	33.953	2.41	2.47	7.79	2.30	32.9	250	5.53	33.90	26.77	132.5	.696
257	6.27	33.952	2.58	2.35	7.80	2.30	30.0	300					
262	6.13	33.950	2.46	2.46	7.81	2.30	32.7						
264	5.49	33.935	2.61	2.39	7.82	2.30	29.8						
271	5.44	33.927	2.69	2.44	7.82	2.31	31.8						
276	5.45	33.917	2.80	2.44	7.83	2.34	32.0						
281	5.71	33.909	2.80	2.61	7.83	2.37	31.9						
284	5.65	33.913	2.77	2.60	7.83	2.30	32.0						
291	5.58	33.905	2.73	2.54	7.81	2.30	32.6						
294	5.59	33.912	2.71	2.52	7.82	2.32	30.0						
296	5.57	33.909	2.73	2.55	7.82	2.33	32.7						

A 1 44 23.3 N 125 08.2 W DATE 14 SEP 69 1938 ACT WIRE 03 DRY 54.1 WET 54.8 CRUISE Y6909A
WIND DIRECTION 00 VEL 12 KTS BAR 22 SWELL DIRECTION 10 M 04 T 10 CLOUD 0 AMT 0 WEATHER 02

0	14.64	32.160	4.27	.38	8.30	2.17	.1	0	14.64	32.17	23.89	403.1	0
10	12.47	32.190	4.73	.43	8.20	2.19	4.0	10	12.47	32.19	24.35	359.5	.038
20	8.38	32.426	4.11	.56	8.14	2.19	7.8	20	8.38	32.43	25.15	283.2	.070
30	9.20	32.632	5.27	1.05	8.08	2.19	12.7	30	8.20	32.64	25.42	254.2	.097
40	7.43	33.041	4.63	1.34	8.01	2.21	19.0	40	7.83	33.08	25.92	220.2	.145
50	8.08	33.446	4.06	1.52	7.97	2.25	22.1	50	8.08	33.50	26.11	193.0	.197
60	8.07	33.728	3.33	1.73	7.90	2.26	25.9	60	8.07	33.74	26.30	175.4	.243
70	7.48	33.863	3.10	2.00	7.86	2.28	28.3	70	7.46	33.93	26.54	153.4	.325
80	7.49	33.926	2.80	2.11	7.83	2.26	29.3	80	6.91	33.99	26.67	141.9	.399
90	7.17	33.956	2.54	2.21	7.83	2.28	30.3	90	6.68	34.03	26.73	136.7	.449
100	6.92	33.989	2.58	2.31	7.80	2.28	31.7	100	6.17	34.04	26.80	130.3	.535
110	6.90	34.015	2.34	2.32	7.79	2.28	32.0						
120	6.86		2.44	2.43	7.78	2.30	32.3						
130	6.80	34.016	2.13	2.50	7.77	2.30	32.6						
140	6.76	34.024	2.03	2.43	7.77	2.30	32.7						
150	6.67	34.025	2.24		7.77	2.30							
160	6.70	34.041	1.99	2.45	7.75	2.30	33.4						
170	6.60	34.042	2.06	2.55	7.75	2.30	34.5						
180	6.58		1.82	2.64	7.74	2.30	34.5						
190	6.44	34.047	1.70	2.65	7.74	2.30							
200	6.23	34.041	1.64	2.66	7.75	2.30	35.0						

A 2 43 51.5 N 124 36.8 W DATE 14 SEP 69 0220 ACT WIRE 00 DRY 60.9 WET 56.5 CRUISE Y6900A
WIND DIRECTION 01 VEL 18 KTS BAR 20 SWELL DIRECTION 15 M 06 T 04 CLOUD 0 AMT 0 WEATHER 03

0	14.82	6.30
10	12.89	6.86
20	9.03	6.20
30	7.82	6.89
40	7.65	6.54
50	8.01	3.54
60	7.99	7.07
70	7.74	3.34
80	7.42	7.06
90	7.20	7.93
100	6.42	7.53
110	6.80	2.42
120	6.72	7.51
130	6.60	7.18
140	6.51	2.10
150	6.47	1.97
160	6.49	1.89
170	6.48	2.24
180	6.51	1.84
190	6.31	1.64
200	6.27	1.56

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.cm)
43 21.8 N 124 11.0 W DATE 14 SEP 69 0713 GCT WIRE 07 DRY 57.6 WET 54.9 CRUISE Y6909A WIND DIRECTION 01 VEL 24 KTS BAR 16 SWELL DIRECTION 12 H 05 T 08 CLOUD 8 AMT 1 WEATHER 01													
0	13.78		4.37										
10	13.76		4.37										
20	11.09		6.90										
30	7.77		5.98										
40	8.64		4.44										
74	8.41		3.85										
99	8.73		1.64										
124	7.98		3.19										
144	7.77		2.57										
173	7.44		2.47										
194	7.42		2.20										
204	7.37		2.13										
214	7.33		2.22										
227	7.30		2.03										
237	7.25		1.99										
247	7.20		1.94										
257	7.19		1.95										
267	7.13		1.89										
277	7.09		1.80										
287	7.05		1.80										
297	7.02		1.54										

RC 1 43 07.4 N 125 14.1 W DATE 15 SEP 69 1753 GCT WIRE 04 DRY 55.2 WET 55.0 CRUISE Y6909A
 WIND DIRECTION 17 VEL 22 KTS BAR 16 SWELL DIRECTION 10 H 03 T 08 CLOUD 6 AMT 1 WEATHER 03

0	13.42	32.748	4.14	.26	8.21	2.21	.2	0	13.42	32.79	24.55	340.8	0
5	13.40	32.748		.31	8.21	2.19	.2	10	13.41	32.79	24.55	340.8	.034
10	13.41	32.748	4.20	.37	8.22	2.19	.4	20	10.54	31.22	25.50	250.7	.064
15	12.44	33.070		.68	8.19	2.21	4.1	30	8.51	31.14	25.77	224.9	.047
20	10.44	33.214	5.65	1.08	8.09	2.21	11.3	50	8.06	31.52	26.13	191.1	.129
25	4.45	32.973	4.35	1.17	8.03	2.19	14.7	75	8.53	31.74	26.23	181.5	.176
30	4.51	33.139	4.84	1.22	7.96	2.19	13.3	100	8.48	31.86	26.34	172.1	.220
35	4.19	33.204	4.71	1.38	7.96	2.19	17.2	150	7.57	31.89	26.49	157.7	.102
40	4.27	33.240	4.63	1.53	7.98	2.21	19.9	200	6.97	31.95	26.62	146.0	.178
45	4.04	33.512	4.48		7.86	2.21							
50	4.11	33.722	4.35	1.58	7.86	2.25	22.7						
60	4.52	33.744	4.24	1.87	7.89	2.23	27.3						
80	4.55	33.703	4.27	1.97	7.85	2.25	28.0						
90	4.53	33.810	4.24	1.97	7.85	2.25	28.7						
100	4.42	33.850	4.15	1.99	7.85	2.26	29.2						
125	4.05	33.882	3.60										
150	7.55	33.887	3.43										
175	7.14	33.919	3.48										
200	6.47	33.950	3.24										

RC 2 43 08.2 N 125 12.0 W DATE 14 SEP 69 2102 GCT WIRE 01 DRY 55.6 WET 55.4 CRUISE Y6909A
 WIND DIRECTION 17 VEL 27 KTS BAR 15 SWELL DIRECTION 10 H 05 T 10 CLOUD 6 AMT 1 WEATHER 02

0	10.25	33.482	4.82	1.10	8.10	2.26	12.8	0	10.26	31.49	25.74	224.0	0
5	10.25	33.475	4.79	1.14	8.04	2.25	13.2	10	9.45	31.60	25.4	204.6	.022
10	9.43	33.599	5.64	1.64	7.96	2.25	21.9	20	8.72	31.71	26.18	185.4	.041
15	9.10	33.640	5.74	1.66	7.96	2.23	21.9	30	8.29	31.78	26.30	174.7	.059
20	8.72	33.710	4.54		7.91	2.23		50	8.02	31.84	26.38	164.8	.093
25	8.43	33.759	4.05	1.82	7.89	2.25	23.7	75	7.82	31.88	26.44	161.7	.134
30	8.79	31.773	3.63	1.91	7.86	2.25	25.3	100	7.88	31.95	26.49	157.3	.176
35	8.24	33.804	3.72	1.97	7.85	2.25	26.0	150	6.99	31.93	26.60	147.1	.250
40	8.27	33.874	3.82	2.02	7.86	2.25	27.3	200	6.63	31.97	26.69	139.9	.322
50	8.22	33.831	3.38		7.87	2.25	27.3						
60	7.44	31.843	3.22		7.86	2.25							
70	7.40	33.842	3.42		7.86	2.25							
80	7.45	31.912	3.16	2.10	7.81	2.25	28.6						
90	7.41	31.925	3.33		7.82	2.25							
100	7.47	31.940	3.09	2.37	7.82	2.25	29.8						
125	7.44	33.925	2.81	2.28	7.81	2.28	30.5						
150	6.49	33.925	2.95		7.84	2.28	30.6						
175	6.24	33.959	2.69										
200	6.03	33.971	2.46	2.29	7.81	2.28	31.4						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/m)
RC 7 47 00.4 N 124 02.1 W DATE 14 SEP 69 1050 ACT WIRE 00 DRY 61.5 WET 60.0 CRUISE Y6909A													
WIND DIRECTION 19 VEL 14 KTS BAR 11 SWELL DIRECTION 29 M 03 T 10 CLOUD 4NT 0 WEATHER 01													
0	14.09	32.580						0	14.09	32.58	24.33	361.4	0
10	13.26	32.569						10	13.26	32.57	24.49	344.3	.035
20	10.88	33.240						20	10.88	33.25	24.46	254.5	.065
30	9.26	33.459						30	9.26	33.46	24.40	212.4	.089
40	9.01	33.543						40	8.72	33.59	24.08	195.4	.130
50	8.72	33.582						50	8.72	33.73	24.27	177.5	.176
60	8.42	33.682						60	7.80	33.85	24.43	161.5	.219
75	8.21	33.728						75	7.29	33.93	24.57	150.7	.297
100	7.79	33.842						100	6.78	33.96	24.66	142.8	.371
125	7.48	33.960						125	6.16	33.98	24.75	134.3	.440
150	7.28	33.929						150	5.67	34.00	24.83	127.1	.505
175	7.07	33.950						175	5.32	34.12	24.96	114.5	.528
200	6.77							200	4.90	34.17	27.08	104.6	.737
250	5.46	33.993						250	4.52	34.23	27.15	90.2	.840
300	5.31	34.110						300	4.25	34.29	27.22	92.4	.916
350	4.89	34.169						350	4.08	34.35	27.29	86.6	1.025
400	4.52	34.233						400	3.59	34.44	27.41	76.5	1.188
450	4.25	34.291											
500	4.09	34.353											
550	3.82	34.394											
600	3.57	34.439											

NH 65 44 40.0 N 124 37.0 W DATE 24 SEP 69 1435 ACT WIRE 00 DRY 62.0 WET 60.8 CRUISE Y6909C
WIND DIRECTION 20 VEL 12 KTS BAR 16 SWELL DIRECTION 30 M 08 T 07 CLOUD 7 AMT 6 WEATHER 02

0	16.24	5.75
10	16.23	5.76
20	16.22	5.75
30	14.05	6.02
40	10.00	5.86
50	8.98	6.73
75	7.84	6.03
101	7.43	5.20
151	7.58	4.80
201	7.06	3.14
403	5.45	1.47
503	4.92	0.93
674	4.60	0.69
804	4.04	
1066	3.51	0.65
1207	3.08	0.72

TH 65 45 55.3 N 124 36.9 W DATE 26 SEP 69 1815 ACT WIRE 00 DRY 62.5 WET 61.5 CRUISE Y6909C
WIND DIRECTION VEL 00 KTS BAR 14 SWELL DIRECTION 28 M 09 T 09 CLOUD 3 AMT 7 WEATHER 02

0	16.35	4.83
10	16.30	5.99
20	16.10	5.96
30	10.61	7.14
40	8.64	6.94
50	7.90	6.34
75	7.44	5.92
101	7.72	4.57
151	7.52	3.27
201	6.79	2.86
403	5.41	1.42
503	5.10	0.74
624	4.52	
804	3.81	0.52
1036	3.52	0.40
1207	3.06	0.49

TH 6 45 56.0 N 124 06.4 W DATE 31 OCT 69 0219 ACT WIRE 03 DRY 56.1 WET 56.1 CRUISE Y6910E
WIND DIRECTION VEL 07 KTS BAR 25 SWELL DIRECTION 27 M 04 T 05 CLOUD 4NT 4 WEATHER 45

0	12.44	32.038	6.45	0	12.44	32.04	24.24	370.0	0
10	12.23	32.111	6.37	10	12.23	32.12	24.34	361.0	.037
20	11.44	32.333	6.16	20	11.44	32.34	24.45	311.4	.071
30	10.64	32.551	5.85	30	10.64	32.56	24.96	302.2	.103
40	9.14	32.911	4.85	40	9.10	33.34	25.83	219.7	.155
50	9.10	33.117	4.32						
60	8.74	33.432	4.00						

TH 3 45 56.0 N 124 03.4 W DATE 31 OCT 69 0325 ACT WIRE 01 DRY 56.7 WET 56.4 CRUISE Y6910F
WIND DIRECTION VEL 00 KTS BAR 24 SWELL DIRECTION 27 M 04 T 05 CLOUD 4 AMT 4 WEATHER 42

0	12.14	32.115	6.55	0	12.14	32.14	24.17	357.5	0
10	11.45	32.211	6.56	10	11.45	32.22	24.48	347.4	.035
20	11.65	32.304	6.48	20	11.45	32.31	24.59	336.7	.069
30	11.52	32.376	6.40	30	11.52	32.38	24.67	329.4	.103
40	12.44	32.416	5.45	40	9.78	33.14	25.57	244.3	.140
50	9.74	33.147	4.78						

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
NM 3 44 39.1 N 124 07.4 W DATE 22 OCT 69 2221 GCT WIRE 03 DRY 54.8 WET 51.0 CRUISE Y6910E WIND DIRECTION 26 VEL 06 KTS BAR 18 SWELL DIRECTION 30 M 03 T 07 CLOUD 4 AMT 4 WEATHER 10													
0	11.75	32.710	4.72	.91				0	11.75	32.71	24.89	308.2	0
5	11.40	32.772	4.58	.94	8.20	2.30	5.6	10	10.74	32.92	25.22	274.3	.029
10	10.76	32.915	4.49	1.30	8.15	2.30	10.7	20	10.33	33.29	25.59	242.1	.055
15	10.33	33.142	4.50	1.67	8.05	2.31	15.6	30	9.58	33.57	25.93	209.4	.078
20	10.33	33.244	4.50	1.68	8.02	2.31	17.2						
25	10.35	33.395	4.35	1.76	8.01	2.31	18.7						
30	9.58	33.546	4.74	2.59	7.95	2.30	23.5						
35	9.50	33.540	4.32	2.62	7.93	2.33	24.2						
NM 4 44 39.0 N 124 10.6 W DATE 23 OCT 69 0045 GCT WIRE 00 DRY 56.1 WET 53.9 CRUISE Y6910E WIND DIRECTION 25 VEL 04 KTS BAR 18 SWELL DIRECTION 29 M 03 T 07 CLOUD 4 AMT 4 WEATHER 02													
0	12.11	32.368	6.90	.53	8.26	2.31		0	12.11	32.37	24.56	339.7	0
5	11.43	32.394	6.92	.60	8.27	2.30		10	11.45	32.73	24.92	305.3	.032
10	11.45	32.727	6.76	.76	8.21	2.33		20	9.72	33.08	25.53	247.6	.060
15	11.00	32.842	6.19	1.14	8.15	2.33		30	9.41	33.51	25.91	211.3	.083
20	9.72	33.077	6.14	1.50	8.01	2.34							
25	9.64	33.475	6.88	1.73	7.96	2.36							
30	9.41	33.505	6.69	1.79	7.93	2.34	23.5						
35	9.47	33.553	6.68	1.86	7.85	2.36	23.9						
40	9.44	33.595	6.58	1.99	7.90	2.34	24.4						
NM 15 44 38.8 N 124 24.8 W DATE 23 OCT 69 1600 GCT WIRE 02 DRY 56.0 WET 54.9 CRUISE Y6910E WIND DIRECTION VEL 00 KTS BAR 20 SWELL DIRECTION 29 M 04 T 06 CLOUD 8 AMT 7 WEATHER 02													
0	12.19	32.311	6.56		8.27	2.26	.1	0	12.19	32.32	24.50	345.4	0
5	12.21	32.309		.58	8.26	2.26	.1	10	12.08	32.31	24.51	344.0	.036
10	12.08	32.305		.72	8.26	2.26	.4	20	10.02	32.97	25.01	297.3	.067
15	11.17	32.337		.92	8.20	2.25	4.9	30	8.25	33.01	25.70	231.5	.093
20	10.02	32.470	6.85	1.38	8.14	2.25	9.5	50	8.11	33.50	26.11	192.7	.135
25	8.33	32.643	4.76	1.81	8.01	2.26	17.7	75	8.45	33.86	26.34	171.7	.181
30	8.25	33.001	5.39	1.86	7.96	2.26	20.0						
35	8.59	33.270	4.35	1.98	7.93	2.28	22.6						
40	8.51	33.419	4.23	2.12	7.91	2.30	24.9						
45	8.25	33.423	3.87	2.11	7.90	2.28	25.1						
50	8.11	33.493	3.60	2.10	7.88	2.30	26.3						
55	8.01	33.544	3.36	2.40	7.85	2.28	27.7						
60	8.22	33.705	3.38	2.37	7.85	2.31	28.8						
65	8.44	33.839	3.41	2.49	7.82	2.30	29.9						
70	8.44	33.850	3.39	2.67	7.81	2.31	30.1						
75	8.45	33.853	3.47		7.81	2.31							
NM 10 44 39.1 N 124 18.3 W DATE 23 OCT 69 1829 GCT WIRE 05 DRY 55.4 WET 53.9 CRUISE Y6910E WIND DIRECTION 17 VEL 05 KTS BAR 20 SWELL DIRECTION 29 M 03 T 07 CLOUD 6 AMT 7 WEATHER 02													
0	12.17	32.424	6.80	.47	8.28	2.26	.1	0	12.17	32.43	24.59	336.7	0
5	12.18	32.416	6.81	.46	8.27	2.26	.1	10	12.14	32.92	24.59	337.2	.036
10	12.14	32.413	6.81	.47	8.27	2.26	.1	20	11.88	32.43	24.64	331.8	.067
15	12.08	32.409	6.97	.45	8.27	2.26	.3	30	9.07	32.71	25.34	265.6	.097
20	11.66	32.421	6.74	.48	8.27	2.25	.3	50	8.51	32.98	26.03	200.0	.144
25	10.46	32.477	6.19	.94	8.21	2.26	4.2						
30	9.77	32.703	4.25	1.45	8.09	2.26	12.9						
35	8.37	32.951	4.73		7.93	2.26	18.6						
40	8.12	33.073	4.37	1.45	7.96	2.26	22.1						
45	8.09	33.182	4.26	1.49	7.97	2.28	22.2						
50	8.51	33.474	4.22	1.67	7.91	2.30	25.7						
55	8.23	33.417	3.68	1.77	7.86	2.30	28.7						
NM 25 44 39.2 N 124 38.6 W DATE 23 OCT 69 2212 GCT WIRE 04 DRY 55.8 WET 53.4 CRUISE Y6910E WIND DIRECTION 20 VEL 04 KTS BAR 20 SWELL DIRECTION 29 M 03 T 06 CLOUD 6 AMT 4 WEATHER 02													
0	12.52	32.102	6.79	.73	8.28	2.23	.2	0	12.52	32.11	24.27	364.7	0
10	11.65	32.124	6.46	.87	8.22	2.23	3.6	10	11.65	32.20	24.51	344.4	.076
20	8.52	32.478	6.36	1.44	8.06	2.23	14.6	20	10.01	32.91	24.95	302.2	.068
30	8.07	32.953	6.94	1.59	8.02	2.25	14.1	30	8.52	32.68	24.41	249.3	.096
40	8.30	33.207	4.62	1.88	7.99	2.26	20.6	50	8.30	33.21	24.85	217.1	.144
50	8.67	33.514	4.35	1.95	7.95	2.31	23.4	75	8.57	33.67	24.17	187.1	.194
60	8.01	33.647	4.16	1.99	7.92	2.33	25.4	100	8.40	33.80	24.30	175.8	.219
70	8.53	33.646	4.40	2.08	7.92	2.33	25.9	150	8.00	33.91	24.44	162.7	.224
80	8.47	33.701	3.72	1.90	7.89	2.33	25.6	200	7.71	33.94	24.51	154.7	.405
90	8.40	33.734	3.69	1.94	7.87	2.33	27.0						
100	8.14	33.843	3.26	2.15	7.85	2.33	29.3						
110	8.00	33.906	3.05	2.14	7.85	2.33	29.8						
120	7.90	33.925	2.95	2.17	7.85	2.33	29.9						
130	7.72	33.943	2.70	2.31	7.82	2.33	31.7						

OBSERVED

D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (ml/l) (μM) (meq/l) (μM)

INTERPOLATED

DERIVED

Z T S σ_t S ΔD
(m) (°C) (‰) (10³) (dyn/cm)

NM 105 44 39.0 N 124 30.0 W DATE 26 OCT 64 1900 ACT WIRE 04 DRY 59.9 WET 54.9 CRUISE YAG10P
WIND DIRECTION 20 VEL 14 KTS BAR 10 SWELL DIRECTION 21 M 10 T 03 CLOUD 4 AMT 4 WEATHER 01

0	15.06	32.315	4.98	.44	8.23	2.25	.1
10	15.04	32.314	4.92	.43	8.24	2.21	.1
20	15.09	32.314	4.10	.42	8.23	2.23	.1
30	15.06	32.322	4.32	.42	8.23	2.21	.1
40	15.07	32.327	4.91	.41	8.23	2.23	.1
50	11.02	32.447	7.24	.40	8.26	2.23	.1
60	9.45	32.549	4.99				
70	9.41	32.433	4.39	.40	8.17	2.23	4.9
80	9.41	32.547	4.42	.79	8.18	2.23	4.9
101	7.74	32.549	4.41	.79	8.17	2.23	7.1
124	7.46	33.164	4.00	1.08	8.03	2.26	17.6
151	7.44	33.405	4.50	1.28	7.99	2.25	21.3
202	7.47	33.906		1.44	7.86	2.30	28.3
302	6.71	33.994	2.44	2.05	7.76	2.33	34.0
403	5.59	34.057	1.35	2.27	7.68	2.34	38.3
504	4.01	34.111	1.04	2.51	7.63	2.34	38.6
605	4.42	34.210	.43	2.48	7.40	2.35	40.1
704	4.35	34.247	.43	2.72	7.40	2.39	43.2
804	4.05	34.335	.34	2.78	7.48	2.40	43.7
1004	3.43	34.425	.34	2.77	7.59	2.40	45.5
1209	3.02	34.474	.53	2.77	7.40	2.43	45.0

0	15.06	32.32	23.92	400.3	0
10	15.04	32.32	23.92	401.0	.040
20	15.09	32.32	23.91	401.5	.040
30	15.06	32.33	23.93	400.5	.120
40	11.02	32.49	24.45	313.0	.192
50	9.03	32.58	25.25	275.1	.245
60	7.76	32.55	24.41	249.4	.232
70	7.49	33.49	24.17	144.3	.444
80	7.47	33.40	24.51	154.9	.470
90	6.94	33.95	24.62	144.8	.406
100	6.34	33.99	24.74	136.0	.477
110	5.61	34.06	24.88	123.5	.406
120	5.03	34.11	24.99	113.1	.325
130	4.44	34.20	27.11	102.8	1.132
140	4.36	34.28	27.21	94.3	1.131
150	4.07	34.33	27.28	84.0	1.222
160	3.55	34.42	27.40	77.1	1.347
170	3.04	34.47	27.49	66.4	1.533

NM 125 44 39.1 N 124 59.0 W DATE 26 OCT 69 2355 ACT WIRE 03 DRY 55.5 WET 54.4 CRUISE YAG10P
WIND DIRECTION 27 VEL 14 KTS BAR 10 SWELL DIRECTION 20 M 10 T 02 CLOUD 6 AMT 4 WEATHER 02

0	15.06	32.214	4.96	.35	8.22		.1
10	15.06	32.213	4.96	.42	8.23		.1
20	15.06	32.215	4.96	.48	8.23		.1
30	15.04	32.215	4.01	.32			.1
40	14.47	32.221	4.99	.30	8.23		.1
50	11.42	32.444	7.07	.30	8.24		.1
60	10.78	32.509	7.31	.52	8.23		.1
70	9.31	32.554	4.60	.91	8.19		4.4
80	4.79	32.520	4.41		8.19		
101	7.44	32.581	4.41	1.00	8.16		6.8
126	4.05	32.970	4.48	1.30	8.08		13.6
151	7.48	33.418	4.54	1.31	7.97		19.9
202	7.41	33.775	4.20	1.59	7.93		23.8
302	6.35	33.937	2.79	1.76	7.79		31.6
403	5.43	34.021	1.97	2.18	7.68		37.2
504	4.42	34.084	1.05	2.47	7.64		40.6
605	4.01	34.193	.57	2.68	7.45		41.2
706	4.19	34.251	.60	2.77	7.57		41.9
807	4.15	34.320	.39	3.00	7.57		42.3
1009	3.57	34.412	.40		7.59		43.0
1210	3.09	34.463	.50	3.04	7.59		43.9

0	15.06	32.22	23.84	407.7	0
10	15.06	32.22	23.84	408.0	.041
20	15.06	32.22	23.84	408.1	.042
30	15.04	32.22	23.85	407.9	.122
40	11.42	32.45	24.67	330.0	.196
50	9.01	32.54	25.22	277.4	.272
60	7.97	32.57	25.40	260.5	.339
70	7.70	33.40	25.09	194.0	.453
80	7.42	33.77	25.42	165.4	.444
90	6.92	33.90	25.59	149.7	.423
100	6.37	33.93	26.44	147.4	.445
110	5.65	34.02	26.85	124.8	.429
120	4.45	34.08	26.99	112.9	.349
130	4.41	34.19	27.10	101.8	1.057
140	4.40	34.25	27.17	97.5	1.158
150	4.17	34.32	27.25	90.4	1.251
160	3.60	34.41	27.38	74.6	1.420
170	3.11	34.46	27.47	70.2	1.569

NM 144 44 39.0 N 127 27.0 W DATE 27 OCT 69 0357 ACT WIRE 04 DRY 57.2 WET 52.6 CRUISE YAG10P
WIND DIRECTION 28 VEL 17 KTS BAR 12 SWELL DIRECTION 20 M 06 T 05 CLOUD 4 AMT 5 WEATHER 01

0	14.69	32.150	4.98	.38	8.24	2.25	.1
10	14.71	32.146	4.93	.38	8.24	2.25	.1
20	14.71	32.144	4.00	.39	8.23	2.25	.1
30	14.71	32.144	4.01	.40	8.24	2.26	.1
40	14.62	32.149	4.07	.41	8.24	2.25	.1
50	14.78						
60	9.15	32.490	4.77	1.14	8.22	2.25	.8
70	8.43	32.499	4.54	1.15	8.17	2.25	4.0
80	8.19	32.523	4.42	1.14	8.14	2.25	4.2
101	7.71	32.760	4.74	1.51	8.10	2.26	11.1
124	8.20	32.402	4.19		7.95	2.30	20.4
151	8.18	33.709	3.40		7.90	2.31	25.5
201	7.41	33.902	3.13		7.82	2.33	29.0
302	6.57	33.996	2.15		7.74	2.36	33.4
403	5.79	34.043	1.40	2.41	7.69	2.36	34.9
504	5.19	34.116	.95	2.78	7.63	2.37	39.4
604	4.76	34.197	.42	2.88	7.40	2.40	40.7
704	4.45	34.260	.41	3.11	7.40	2.41	41.5
804	4.18	34.315	.49	3.20	7.49	2.43	43.1
1004	3.60	34.400	.37	3.29	7.41	2.44	42.6
1209	3.18	34.455	.52	3.31	7.40	2.45	42.8

0	14.69	32.15	23.47	404.9	0
10	14.71	32.15	23.47	405.4	.041
20	14.71	32.15	23.47	405.0	.041
30	14.71	32.15	23.47	404.1	.122
40	14.08	32.32	23.13	381.4	.200
50	8.38	32.51	25.29	271.0	.282
60	7.92	32.75	25.55	244.7	.367
70	8.19	33.65	27.21	183.4	.454
80	7.42	33.90	26.49	154.8	.440
90	7.08	33.98	26.43	146.3	.417
100	6.59	33.99	26.71	139.1	.446
110	5.41	34.04	26.85	127.1	.321
120	5.21	34.11	26.97	114.9	.442
130	4.77	34.19	27.09	105.2	1.052
140	4.46	34.26	27.17	97.5	1.153
150	4.20	34.31	27.25	91.0	1.247
160	3.62	34.40	27.37	70.7	1.418
170	3.20	34.45	27.46	71.8	1.570

OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(μ m)

CP 01 45 48.3 N 124 00.0 W DATE 02 NOV 69 0310 GCT WPER 02 DRY 65.0 WET 57.0 COLLISE Y6911A
WIND DIRECTION 15 VEL 10 KTS BAR 12 SWELL DIRECTION 29 H 03 T 05 CLCUD 0 AMT 2 WEATHER 00

0	11.78	32.045	6.68	0	11.78	32.10	24.41	354.1	0
5	11.77	32.110		10	11.98	32.30	24.40	334.1	.035
10	11.58	32.294	6.38	20	11.32	32.65	24.41	304.1	.047
15	11.40	32.459	4.15						
20	11.32	32.642	4.97						

CP 02 45 48.- 1 124 14.2 W DATE 02 NOV 69 0549 GCT WIRE 03 DRY 47.0 WET 53.0 CRUISE Y69114
WIND DIRECTION 17 VFL 14 KTS BAR 15 SWELL DIRECTION 29 H 03 T 08 CLOUD AMT 0 WEATHER 02

0	12.42	32.088	6.47	0	12.42	32.09	24.28	364.9	0
5	12.33	32.101	6.44	5	12.15	32.19	24.41	354.0	.976
10	12.15	32.187	6.26	10	11.47	32.43	24.72	324.4	.970
15	11.70	32.279	6.28	15	10.43	32.55	24.99	294.4	.9101
20	11.47	32.426	6.33	20	8.63	31.59	26.10	197.4	.9150
25	10.77	32.524	6.97	25	8.32	31.66	26.20	184.9	.9198
30	10.43	32.544	6.99	100	8.03	31.75	26.32	173.7	.9242
35	9.97	32.771	6.17						
40	9.28	33.029	6.60						
50	8.43	33.589	3.88						
75	6.32	33.661	3.50						
100	6.03	33.750	3.10						

CP 07 45 48.4 N 124 28.5 E DATE 02 NOV 69 0732 GCT WIRE 01 DRY 56.5 DET 55.2 CRUISE Y69114
WIND DIRECTION 16 VEL 04 KTS BAR 15 SWELL DIRECTION 29 H 04 T 08 CLUD AMT WEATHER 02

0	12.77	31.007	6.47	0	12.77	31.01	23.78	451.9	0
5	12.79	31.110	6.42	10	13.18	31.99	24.05	387.7	.042
1*	13.18	31.945	5.90	20	11.75	32.15	26.45	350.5	.079
15	12.24	32.012	5.87	30	9.38	32.92	25.46	254.4	.109
2*	11.75	32.141	5.71	50	8.10	33.39	26.02	200.4	.155
25	10.34	32.690	5.05	75	8.09	33.69	26.26	179.2	.202
3*	9.37	32.915	4.82	100	7.96	33.83	26.37	167.1	.245
35	7.93	32.939	4.00	150	7.87	33.86	26.43	164.1	.328
4*	7.91	33.020	4.27						
5*	8.10	33.384	3.10						
7*	8.09	33.682	3.35						
10*	7.96	33.826	2.94						
12*	7.84	33.834	2.61						
15*	7.87	33.863	2.37						

CP 04 45 48.5 N 124 42.8 W DATE 02 NOV 69 0934 RCT WIRE 03 DRY 56.5 WET 55.7 CRUISE Y6911A
WIND DIRECTION 16 VEL 12 KTS BAR 15 SWELL DIRECTION 29 H 03 T 07 CLSD AMT 0 WEATHER 02

12.79	31.233	6.38	0	12.79	31.24	23.55	435.7	0
12.78	31.223	6.33	10	12.79	31.24	23.55	435.9	.044
12.79	31.232	6.43	20	13.28	31.90	23.97	398.2	.085
12.90	31.570	6.24	30	12.42	32.01	24.21	372.7	.124
13.28	31.898	6.32	50	7.81	32.4	25.55	245.5	.185
13.04	31.958	5.74	75	8.03	33.37	26.02	201.9	.241
12.42	32.001	5.60	100	8.04	33.78	26.34	172.1	.288
11.28	32.204	5.55	150	7.76	33.93	26.49	157.4	.371
7.40	32.467	6.25						
7.20	32.732	6.00						
4.03	33.365	7.99						
4.04	33.774	7.41						
7.71	33.881	3.01						
7.76	33.927	2.63						

CP 05 45 48.4 N 126 57.2 W DATE 02 NOV 69 1125 OCT WIRE 01 DRY 56.0 WET 55.2 CRUISE Y6911A
WIND DIRECTION 19 VEL 12 KTS BAR 15 SWELL DIRECTION 29 H 03 T 07 CLCUD AMT 0 WEATH. 02

2	13.04	32.040	6.35	0	13.04	32.04	24.12	380.9	0
3	13.02	32.036	6.46	10	13.02	32.04	24.12	381.1	.038
17	13.02	32.074	6.50	20	12.85	32.05	24.17	377.2	.076
18	12.89	32.041	6.48	30	12.48	32.10	24.28	367.0	.113
27	12.85	32.044	6.57	50	8.20	32.57	24.37	361.1	.176
28	12.69	32.074	6.32	75	8.01	33.27	25.94	309.4	.275
39	12.44	32.097	6.32	100	8.75	33.73	26.26	179.0	.284
35	11.51	32.230	6.71	150	7.81	33.90	26.47	160.1	.269
47	9.36	32.389	6.50						
57	8.20	32.570	6.96						
75	8.01	33.261	6.35						
107	8.25	33.721	7.69						
125	7.97	33.964	7.20						
157	7.81	33.905	2.91						

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OBSERVED

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
CP 11 45 59.3 N 124 21.4 W DATE 02 NOV 69 2201 GCT WIRE 05 DRY 54.6 WET 54.5 CRUISE Y69114													
WIND DIRECTION 14 VEL 12 KTS BAR 17 SWELL DIRECTION 29 H 03 T 10 CLOUD 6 AMT 9 WEATHER 02													
0	12.69	31.262	4.47					0	12.69	31.27	23.49	431.7	0
5	12.59	31.765	4.47					10	12.55	32.01	24.19	374.7	.040
10	12.55	32.004	4.56					20	11.64	32.27	24.55	340.4	.076
15	12.43	32.034	4.53					30	9.97	32.72	25.21	277.9	.107
20	11.68	32.262	4.29					50	8.08	33.35	26.00	203.5	.155
25	10.49	32.488	4.49					75	8.09	33.70	26.26	178.6	.203
30	9.42	32.713	4.17					100	7.92	33.84	26.41	164.5	.246
35	8.40	32.998	5.05										
40	8.31	33.127	4.34										
50	8.08	33.348	3.87										
75	8.09	33.690	3.58										
100	7.81	33.832	2.54										
CP 12 46 00.1 N 124 14.4 W DATE 02 NOV 69 2301 GCT WIRE 06 DRY 54.3 WET 54.3 CRUISE Y69114													
WIND DIRECTION 12 VEL 12 KTS BAR 17 SWELL DIRECTION 29 H 03 T 10 CLOUD 6 AMT 8 WEATHER 03													
0	12.78	31.927	4.34					0	12.78	31.93	24.09	384.4	0
5	12.77	31.923	4.35					10	12.79	31.93	24.18	385.1	.038
10	12.79	31.922	4.35					20	11.91	32.18	24.45	350.4	.075
15	12.73	31.931	4.33					30	10.54	32.74	25.12	284.7	.107
20	11.91	32.180	4.81					50	8.27	33.43	26.03	200.6	.156
25	11.20	32.519	4.71					75	8.13	33.66	26.22	182.2	.204
30	10.56	32.739	4.42										
35	10.06	32.975	4.17										
40	9.48	33.045	4.92										
50	8.27	33.424	3.79										
75	8.13	33.650	3.25										
CP 13 46 00.1 N 124 07.4 W DATE 03 NOV 69 0012 GCT WIRE 01 DRY 53.2 WET 53.2 CRUISE Y69114													
WIND DIRECTION 14 VEL 14 KTS BAR 17 SWELL DIRECTION 29 H 03 T 10 CLOUD 7 AMT 8 WEATHER 02													
0	12.12	32.069	4.64					0	12.13	32.07	24.32	362.0	0
5	12.09	32.072	4.64					10	12.05	32.24	24.46	348.9	.036
10	12.05	32.232	4.65					20	11.60	32.59	24.82	315.4	.069
15	11.77	32.461	4.46					30	9.16	32.84	25.43	257.1	.097
20	11.60	32.581	4.31					50	8.67	33.37	25.92	211.2	.144
25	11.36	32.654	4.10										
30	9.16	32.835	4.99										
35	8.69	32.933	4.71										
40	8.41	33.115	4.38										
50	8.47	33.360	4.13										
80	8.48	33.555	3.74										
CP 14 46 00.1 N 124 00.0 W DATE 03 NOV 69 0201 GCT WIRE 03 DRY 53.2 WET 53.2 CRUISE Y69114													
WIND DIRECTION 17 VEL 12 KTS BAR 17 SWELL DIRECTION 29 H 04 T 05 CLOUD 7 AMT 8 WEATHER 47													
0	12.29	31.797	4.24					0	12.29	31.80	24.08	385.1	0
5	12.29	31.799	4.63					10	12.27	31.81	24.09	384.0	.038
10	12.27	31.809	4.60					20	11.53	32.36	24.66	330.5	.074
15	12.18	31.846	4.56										
20	11.53	32.360	4.18										
CP 15 46 05.1 N 124 00.0 W DATE 03 NOV 69 0258 GCT WIRE 01 DRY 54.2 WET 53.1 CRUISE Y69114													
WIND DIRECTION 19 VEL 14 KTS BAR 19 SWELL DIRECTION 29 H 04 T 06 CLOUD 7 AMT 8 WEATHER 02													
0	12.17	31.883	4.59										
5	12.15	31.881	4.60										
10	12.01	32.044	4.45										
CP 16 46 07.5 N 124 03.5 W DATE 03 NOV 69 0349 GCT WIRE 01 DRY 59.4 WET 53.9 CRUISE Y69114													
WIND DIRECTION 22 VEL 14 KTS BAR 19 SWELL DIRECTION 29 H 04 T 06 CLOUD 7 AMT 8 WEATHER													
0	11.92	32.042	4.47					0	11.92	32.05	24.74	340.4	0
5	11.92	32.040	4.47					10	11.90	32.04	24.74	340.4	.036
10	11.90	32.040	4.47					20	11.74	32.26	24.54	341.6	.071
15	11.69	32.062	4.40										
20	11.74	32.260	4.50										
CP 17 46 05.1 N 124 07.5 W DATE 03 NOV 69 0510 GCT WIRE 00 DRY 54.8 WET 54.2 CRUISE Y69114													
WIND DIRECTION 19 VEL 12 KTS BAR 19 SWELL DIRECTION 29 H 04 T 08 CLOUD 6 AMT 1 WEATHER 01													
0	12.21	32.073	4.52					0	12.21	32.08	24.71	347.3	0
5	12.20	32.073	4.51					10	12.18	32.08	24.72	342.3	.036
10	12.18	32.077	4.52					20	12.13	32.11	24.75	349.3	.072
15	12.11	32.077	4.53					30	11.69	32.25	24.54	341.9	.107
20	12.12	32.110	4.53					50	10.28	32.90	25.29	270.8	.169
25	11.91	32.131	4.53										
30	11.69	32.246	4.46										
35	11.96	32.309	4.37										
40	11.63	32.370	4.33										
50	10.28	32.492	4.35										

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CP 19 46 04.9 I 124 71.4 W DATE 03 NOV 69 0757 GCT WIRE ON DRY 54.0 WET 43.0 CRUISE YAG11A
WIND DIRECTION 35 VEL 10 KTS BAR 20 SWELL DIRECTION 29 H 04 T 09 CLOUD 4 AMT 9 WEATHER 02

0	12.69	31.453	4.43	0	12.69	31.46	23.74	417.4	0
5	12.61	31.415	4.91	10	12.31	32.03	24.76	364.5	.039
10	12.31	32.329	7.34	20	10.86	32.51	24.89	302.5	.073
15	11.75	32.229	4.61	30	9.63	32.88	25.39	241.0	.102
20	10.86	32.504	4.08	50	4.05	33.47	26.09	194.6	.147
25	10.16	32.646	5.33	75	8.09	33.74	26.30	175.1	.193
30	9.63	32.680	4.05						
35	9.39	33.028	4.38						
40	9.19	33.235	4.29						
50	9.05	33.463	4.05						
75	9.09	33.737	3.76						

CP 20 46 05.1 124 28.6 W DATE 03 NOV 69 0846 HCT WIRE 03 DNY 54.5 WET CRUISE Y69114
WIND DIRECTION 35 VEL 12 KTS RAR 20 SWELL DIRECTION 29 H 04 T 07 CLCUD 6 AMT 4 WEATHER 02

0	17.71	31.142	4.31	0	12.71	31.15	23.50	447.9	0
5	17.68	31.146	4.34	10	12.35	31.32	23.49	427.1	.743
10	12.35	31.312	4.30	20	10.97	32.44	24.82	315.1	.880
15	11.97	32.101	4.70	30	9.42	32.99	25.50	250.3	.108
20	12.47	32.440	4.29	50	8.10	33.47	26.09	194.7	.153
25	13.32	32.679	4.82	75	7.93	33.86	26.37	164.4	.198
30	9.42	32.980	4.50	100	7.70	33.85	26.44	151.8	.239
35	4.56	33.147	4.54						
40	4.14	33.289	4.97						
50	4.10	33.470	4.53						
75	7.42	33.705	2.98						
100	7.70	33.847	2.04						

CP 21 46 04.9 N 126 43.0 W DATE 03 NOV 69 1029 ZCT WIRE 08 DRY 54.0 WET CRUISE Y6911A
WIND DIRECTION 00 VEL 14 KTS BAR 20 SWELL DIRECTION 29 H 24 T 10 CLOUD 6 AMT 8 WEATHER 02

0	11.22	31.951	6.26	0	13.22	31.96	24.02	390.4	0
5	11.22	31.951	6.26	10	13.25	31.96	24.02	391.3	.039
10	13.25	31.954	6.27	20	12.96	32.03	24.13	380.7	.078
15	13.22	31.994	6.27	30	8.66	32.45	25.20	278.5	.111
20	12.96	32.027	6.26	50	7.67	32.59	25.46	254.1	.164
25	9.44	32.343	6.92	75	7.70	33.19	25.93	210.5	.222
30	8.66	32.447	6.78	100	8.32	33.1	26.18	197.0	.272
35	8.06	32.469	6.30	150	7.40	33.85	26.43	164.1	.359
40	7.81	32.503	6.30						
50	7.66	32.590	6.05						
75	7.70	33.188	6.76						
100	8.32	33.627	4.09						
125	7.87	33.783	3.36						
150	7.40	33.850	2.93						

CP 27 46 10.0 M 125 11.7 W DATF 03 NOV 69 1316 OCT WIRE 06 DNY 54.9 WET CRUISF Y6911A
WIND DIRECTION 00 VEL 14 KTS RAR 20 SWELL DIRECTION 29 H 03 T 06 CLOUD 7 AM 4 WEATHER 01

0	13.51	32.074	6.19	0	13.51	32.08	24.06	187.2	0
5	13.49	32.071	6.19	5	13.44	32.07	24.05	188.4	.079
10	13.54	32.069	6.19	10	13.54	32.07	24.05	188.4	.078
15	13.52	32.070	6.20	30	11.27	32.28	24.44	132.2	.114
20	13.54	32.070	6.19	50	8.24	32.47	25.28	271.7	.174
25	13.23	32.095	6.27	75	7.69	32.73	25.47	244.4	.219
30	11.27	32.279	6.79	100	8.04	33.31	25.97	206.4	.295
35	9.59	32.393	7.04	150	7.83	33.77	26.36	170.4	.389
40	4.67	32.444	6.59						
50	4.24	32.462	6.59						
75	7.67	32.727	6.73						
100	4.04	33.109	6.17						
125	4.12	33.540	1.83						
150	7.83	33.768	1.31						

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CP	26	44 09.9 N	124 21.5 W	DATE 03 NOV 89	2017 ACT	WIRE 04	DRY 50.6	WET 50.0	CRUISE Y6911A
WIND DIRECTION 01 VEL 10 KTS				SEA 1A SWELL DIRECTION 29 H 03 T 06 CLCUD 0 AMT 7 WEATHER 02					
0	17.66	31.415	4.49			0	12.66	31.62	23.87 405.1
5	17.62	31.524	4.49			10	12.56	31.86	24.08 384.4
10	17.56	31.459	4.52			20	10.67	32.59	24.99 292.2
15	17.46	32.317	4.25			30	9.61	32.00	25.79 280.4
20	17.47	32.587	5.14			50	8.04	33.34	25.49 271.9
25	17.25	32.719	4.95			75	6.13	33.73	26.28 174.8
30	2.61	32.479	4.70						
35	2.32	32.350	4.82						
40	4.32	33.126	4.77						
50	2.04	33.337	3.49						
70	2.15	33.578	3.73						
90	2.44	33.776	2.51						

CP	27	14 09.8	174 14.6 W	DATE 03 NOV 89	2119 ACT	WIDE 04	DRY 54.8	WET 50.0	CRUISE Y9911A
WIND DIRECTION 01 VEL OR KTS				BAR 17 SELL DIRECTION 29 H 06 T 07 CLOUD 4 AMT A WEATHER 02					
0	12.12	31.270	4.51			0	12.12	31.98	24.21 372.8
5	12.29	31.268	4.44					31.99	24.26 370.4
10	12.26	31.244	4.52			20	11.77	32.32	24.58 318.2
15	12.08	32.045	4.56			40	10.26	32.41	25.23 276.7
20	11.77	32.313	4.52			50	8.19	33.46	26.03 200.4
25	11.36	32.420	4.25						
30	10.26	32.408	4.45						
35	9.30	33.171	4.84						
40	8.74	33.360	4.23						
50	8.19	33.450	3.81						
60	4.14	33.500	3.02						

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D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (ml/l) (μM) (meq/l) (μM)

Z T S σ_t S Δσ
(m) (°C) (‰) (10³) (dyn/cm)

CP 29 46 10.1 N 124 07.1 W DATE 03 NOV 69 2213 GCT WIRE 03 DRY 53.9 WET 50.0 CRUISE Y6911A
WIND DIRECTION 01 VEL 04 KTS BAR 14 SWELL DIRECTION 29 M 06 T 07 CLOUD 6 AMT A WEATHER 02

0 12.05 31.919 4.55
5 12.01 31.950 4.56
10 11.48 32.045 4.49
15 11.90 32.105 4.59
20 11.78 32.225 4.52
25 11.64 32.279 4.48

0 12.05 31.92 24.22 371.4 0
10 11.98 32.05 24.33 361.4 .037
20 11.78 32.23 24.41 344.4 .072

CP 30 46 15.0 N 123 57.4 W DATE 03 NOV 69 2353 GCT WIRE 00 DRY 54.5 WET 51.0 CRUISE Y6911A
WIND DIRECTION 01 VEL 04 KTS BAR 14 SWELL DIRECTION M T CLOUD 6 AMT A WEATHER 02

0 12.54 7.205 4.86
4 12.35 12.229 4.64
8 12.06 22.456 4.16

CP 31 46 15.0 N 124 00.0 W DATE 04 NOV 69 0010 GCT WIRE 04 DRY 54.0 WET 51.0 CRUISE Y6911A
WIND DIRECTION 29 VEL 05 KTS BAR 14 SWELL DIRECTION M T CLOUD 7 AMT B WEATHER 02

0 12.42 10.337 7.00
5 12.05 23.288 6.52
10 11.82 29.684 6.15
15 11.78 30.206 6.16

0 12.42 10.34 7.52 1990.1 0
10 11.82 29.69 22.53 533.0 .126

CP 32 46 15.0 N 124 03.0 W DATE 04 NOV 69 0111 GCT WIRE 05 DRY 54.0 WET 51.5 CRUISE Y6911A
WIND DIRECTION 27 VEL 05 KTS BAR 14 SWELL DIRECTION 27 M 04 T 05 CLOUD 8 AMT A WEATHER 02

0 12.09 22.984 4.54
5 11.81 24.849 4.43
10 11.61 31.855 4.25
15 11.90 25.894 4.52
20 11.72 31.560 4.25
25 11.78 31.762 6.29

0 12.09 22.99 17.32 1034.4 0
10 11.61 31.86 24.25 369.0 .070

CP 29 46 12.5 N 124 11.0 W DATE 04 NOV 69 0250 GCT WIRE 06 DRY 54.0 WET 51.0 CRUISE Y6911A
WIND DIRECTION 01 VEL 04 KTS BAR 13 SWELL DIRECTION 27 M 05 T 08 CLOUD 8 AMT A WEATHER 02

0 12.11 29.840 4.57
5 12.72 31.812 4.37
10 12.22 31.924 4.51
15 11.99 32.210 4.37
20 11.46 32.331 4.23
25 11.48 32.511 4.25
30 10.80 32.679 4.64

0 12.11 29.84 22.60 526.3 0
10 12.22 31.93 24.19 374.4 .045
20 11.46 32.34 24.65 331.5 .080
30 10.80 32.68 25.03 294.7 .112

CP 34 46 15.0 N 124 14.5 W DATE 04 NOV 69 0339 GCT WIRE 01 DRY 54.0 WET 51.0 CRUISE Y6911A
WIND DIRECTION VEL 00 KTS BAR 11 SWELL DIRECTION 28 M 06 T 06 CLOUD 7 AMT A WEATHER 02

0 12.03 25.998 4.63
5 12.44 29.693 4.51
10 12.75 31.612 4.34
15 12.72 31.912 4.31
20 12.15 31.995 4.10
25 11.20 32.448 4.28
30 10.37 32.437 4.62
35 9.78 32.903 4.12
40 8.43 33.159 4.54

0 12.03 24.00 19.65 809.1 0
10 12.75 31.61 23.85 407.2 .061
20 12.15 32.00 24.26 368.3 .100
30 10.38 32.64 25.05 290.8 .133

CP 35 46 15.1 N 124 21.6 W DATE 04 NOV 69 0440 GCT WIRE 01 DRY 54.0 WET 52.0 CRUISE Y6911A
WIND DIRECTION 21 VEL 07 KTS BAR 10 SWELL DIRECTION 29 M 06 T 09 CLOUD 6 AMT A WEATHER 02

0 12.18 26.152 4.46
5 12.55 31.086 4.39
10 12.63 31.437 4.40
15 12.44 31.988 4.46
20 11.53 32.236 4.74
25 10.36 32.640 4.06
30 9.43 32.875 4.64
35 8.73 33.041 4.43
40 8.43 33.102 4.38
45 8.11 33.266 4.18
50 7.44 33.652 3.25
75 4.04 33.701 3.23
100 4.05 33.701 3.23

0 12.18 26.16 19.74 800.4 0
10 12.63 31.44 23.74 417.9 .061
20 11.63 32.24 24.54 341.4 .099
30 9.63 32.88 25.34 261.4 .129
40 8.11 33.27 25.43 210.1 .176
50 8.04 33.66 26.24 180.7 .225
75 8.05 33.71 26.28 177.5 .270

OBSERVED								INTERPOLATED			DERIVED		
D	T	S	O ₂	PO ₄	pH	ALK	NO ₃	Z	T	S	σ_t	σ_s	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
CP 77 66 1500 N 126 24.2 W DATE 04 NOV 69 0552 ZCT WIRE 03 DRY 54.0 WET 52.0 CRUISE YAG11A WIND DIRECTION 21 WFL 10 KTS HIR OR SWELL DIRECTION 29 W 04 T 09 CLOUD 6 AMT 4 WEATHER 12													
0	12.16	29.346	4.84					0	12.16	29.39	23.21	546.2	0
4	12.49	31.775	4.81					10	12.45	31.64	23.42	400.8	.162
10	12.45	31.677	4.81					20	11.84	32.12	24.41	344.3	.084
16	12.45	31.441	4.80					30	9.74	32.87	24.15	244.7	.117
20	11.48	32.119	4.75					50	8.06	33.39	24.03	200.1	.143
24	10.47	32.821	4.06					75	7.48	33.69	24.27	174.0	.211
30	9.74	32.442	4.73					100	7.46	33.74	24.35	174.4	.244
36	9.10	32.451	4.57					150	7.44	33.03	24.42	144.2	.214
40	8.19	31.203	4.14										
50	8.16	31.346	3.44										
75	7.44	31.677	3.25										
100	7.46	31.754	2.67										
124	7.47	31.744	2.54										
145	7.44	31.435	2.20										
CP 77 66 1500 N 126 43.4 W DATE 04 NOV 69 0712 ZCT WIRE 01 DRY 54.5 WET 51.0 CRUISE YAG11A WIND DIRECTION 21 WFL 14 KTS HIR OR SWELL DIRECTION 29 W 04 T 09 CLOUD 6 AMT 4 WEATHER 12													
0	13.00	31.124	4.33					0	13.00	31.13	23.43	447.2	0
4	13.15	31.553	4.32					10	13.31	32.03	24.04	344.0	.162
10	13.31	32.028	4.24					20	13.22	32.02	24.07	344.3	.080
16	13.27	32.324	4.25					30	10.24	32.36	24.84	309.7	.115
20	11.13	32.014	4.26					50	7.78	32.44	25.15	244.3	.173
24	13.16	32.713	4.27					75	7.44	33.23	24.93	204.9	.212
30	13.24	32.183	7.25					100	8.19	33.08	24.23	141.4	.241
40	3.23	32.433	4.84					150	7.71	33.93	24.40	157.1	.265
40	8.10	32.444	4.37										
50	7.77	32.473	4.30										
75	7.44	31.237	4.74										
100	8.10	31.674	3.74										
124	7.42	31.444	3.00										
150	7.71	31.427	2.41										
CP 74 64 2040 N 124 12.0 W DATE 04 NOV 69 1017 ZCT WIRE 04 DRY 54.2 WET 51.0 CRUISE YAG11A WIND DIRECTION 14 WFL 14 KTS HIR OR SWELL DIRECTION 18 W 04 T 10 CLOUD 6 AMT 4 WEATHER 64													
0	13.11	31.441	4.27					0	13.11	31.45	24.03	344.5	0
4	13.11	31.344	4.21					10	13.14	31.44	24.04	344.1	.139
10	13.14	31.057	4.24					20	13.10	31.97	24.34	344.3	.074
16	13.12	31.444	4.27					30	11.14	32.22	24.41	334.4	.114
20	13.10	31.244	4.25					50	8.12	32.44	24.24	270.3	.174
24	12.11	31.045	4.24					75	7.41	32.74	24.44	242.4	.234
30	11.14	32.214	4.53					100	7.91	33.44	24.13	191.4	.243
36	11.23	32.150	4.79					150	7.47	33.05	24.44	150.1	.140
40	8.11	32.474	4.93										
50	8.12	32.454	4.46										
75	7.41	32.740	4.43										
100	7.40	31.447	3.45										
124	7.79	33.750	3.35										
150	7.47	33.445	3.15										
CP 30 44 1940 N 124 44.4 W DATE 04 NOV 69 2016 ZCT WIRE 05 DRY 50.3 WET 49.9 CRUISE YAG11A WIND DIRECTION 24 WFL 14 KTS HIR 97 SWELL DIRECTION 20 W 10 T 08 CLOUD 6 AMT 4 WEATHER 02													
0	13.31	32.001	4.12					0	13.31	32.01	24.04	344.4	0
4	13.24	31.297	4.19					10	13.33	32.00	24.03	344.0	.034
10	13.33	31.924	4.31					20	13.29	32.02	24.05	344.0	.078
16	13.30	31.994	4.20					30	11.14	32.24	24.45	331.4	.114
20	13.29	32.012	4.21					50	8.32	32.46	24.26	271.4	.174
24	12.76	32.170	4.43					75	7.47	32.84	24.48	231.4	.234
30	11.14	32.248	4.43					100	8.03	33.55	24.10	184.4	.290
36	9.44	32.192	4.75					150	7.44	33.84	24.42	144.7	.174
40	8.12	32.441	4.42										
50	8.12	32.441	4.41										
75	7.57	32.453	4.35										
100	8.03	33.444	3.40										
124	8.01	33.744	3.39										
150	7.44	33.457	3.09										
CP 41 44 1945 N 124 44.0 W DATE 04 NOV 69 2224 ZCT WIRE 00 DRY 40.0 WET 40.4 CRUISE YAG11A WIND DIRECTION 24 WFL 20 KTS HIR 94 SWELL DIRECTION 20 W 10 T 08 CLOUD 6 AMT 4 WEATHER 12													
0	13.14	32.023	4.20					0	13.14	32.03	24.04	344.7	0
50	13.19	32.014	4.21					10	13.14	32.02	24.08	344.4	.139
10	13.19	32.020	4.21					20	13.19	32.02	24.08	344.0	.077
15	13.19	32.019	4.25					30	13.10	32.02	24.08	344.1	.116
20	13.14	32.024	4.21					50	13.19	32.02	24.08	344.3	.193
24	12.90	32.044	4.21					75	7.44	33.24	24.97	204.2	.247
30	11.29	32.209	4.74					100	8.02	33.70	24.24	177.4	.315
36	8.47	32.471	4.93					150	7.44	33.49	24.45	141.4	.400
40	8.16	32.447	4.60										
50	7.41	32.424	4.87										
75	7.47	33.277	4.24										
100	8.02	33.444	3.44										
124	7.45	33.457	3.11										
150	7.44	33.445	2.42										

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INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	AR	NO ₃	Z	T	S	σ_t	S	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
CP 41 44 20.0 N 124 29.0 W DATE 05 NOV 69 0052 ACT WIRE 03 DRY 44.0 WET 50.0 CRUISE 749114 WIND DIRECTION 20 VEL 14 KTS RAR 04 SWELL DIRECTION 20 M 10 T 07 CLOUD 7 AMT 4 WEATHER 02													
0	12.16	28.641	A.33					0	12.16	28.65	21.47	615.4	0
5	12.16	28.642	A.30					10	12.30	29.16	22.19	565.0	.059
10	12.10	29.351	A.30					20	12.52	31.47	21.78	413.7	.108
15	12.56	30.624	A.34					30	11.63	32.12	24.45	350.0	.142
20	12.52	31.469	A.25					50	8.40	33.11	25.76	226.0	.204
25	12.27	31.771	A.12					75	8.04	33.51	26.13	191.5	.256
30	11.62	32.111	A.02					100	7.42	33.63	24.40	145.4	.301
35	10.79	32.509	A.22										
40	9.47	32.771	A.40										
50	8.40	33.107	A.32										
75	8.04	33.507	A.44										
100	7.42	33.621	A.59										

CM 1 44 01.4 N 124 46.4 W DATE 14 NOV 69 0405 ACT WIRE 00 DRY WET CRUISE 649116 WIND DIRECTION 00 VEL 10 KTS RAR 22 SWELL DIRECTION 20 M 04 T 07 CLOUD 6 AMT 1 WEATHER 00													
0	12.49												
20	12.43												
40	12.08												
60	7.74												
80	8.10												
100	8.74												
120	8.24												
140	7.47												
160	7.74												
180	7.52												
200	7.74												
220	7.71												

CM 2 44 53.4 N 124 44.7 W DATE 14 NOV 69 1515 ACT WIRE 00 DRY WET CRUISE 649116 WIND DIRECTION 00 VEL 10 KTS RAR 10 SWELL DIRECTION 27 M 03 T 07 CLOUD 6 AMT 1 WEATHER 00													
0	13.22												
20	13.23												
40	11.04												
60	8.74												
80	7.47												
100	8.12												
120	8.09												
140	7.41												
160	7.73												
180	7.60												
200	7.44												
220	7.27												

NM 45 44 39.0 N 124 34.1 W DATE 17 NOV 69 0615 ACT WIRE 04 DRY 50.0 WET 44.0 CRUISE 749119 WIND DIRECTION 20 VEL 14 KTS RAR 24 SWELL DIRECTION 12 M 07 T 08 CLOUD 6 AMT 4 WEATHER 01													
0	13.33	32.29	A.15					0	13.33	32.29	24.26	368.0	0
10	13.34	32.29	A.21					10	13.34	32.29	24.26	368.0	.037
20	13.32	32.29	A.13					20	13.32	32.29	24.26	368.0	.074
30	13.27	32.29	A.21					30	13.27	32.30	24.27	367.4	.110
40	13.20	32.29	A.15					50	11.30	32.62	24.40	308.0	.178
75	9.37	33.146	A.24					75	9.34	33.17	24.66	236.0	.246
100	8.09	33.244	A.41					100	8.09	33.57	26.04	200.0	.301
125	8.74	33.749	A.59					150	8.09	33.85	26.38	164.1	.363
140	8.10	33.848	A.25					200	7.60	33.95	26.53	134.9	.423
190	7.51	33.848	A.25					250	7.21	33.99	26.62	104.8	.449
240	6.84	34.016	A.24					300	6.83	34.02	26.69	80.7	.471
300	6.84	34.023	A.23					400	5.87	34.06	26.85	42.4	.544
400	6.83	34.176	A.23					500	5.15	34.12	26.98	18.0	.674
500	6.82	34.18	A.27					600	4.62	34.18	27.09	104.7	.944
700	4.31	34.24	A.27					700	4.31	34.24	27.18	96.7	1.084
800	4.09	34.32	A.27					800	4.09	34.32	27.26	46.6	1.177
1000	3.54	34.40	A.27					1000	3.54	34.40	27.38	74.4	1.346

NM 105 44 39.1 N 124 30.9 W DATE 24 NOV 69 0844 ACT WIRE 01 DRY 54.0 WET 48.5 CRUISE 749119 WIND DIRECTION 20 VEL 04 KTS RAR 31 SWELL DIRECTION 10 M 09 T 10 CLOUD 4 AMT 7 WEATHER 02													
0	13.10	32.373	A.04					0	13.10	32.38	24.17	357.4	0
10	13.11	32.361	A.04					10	13.11	32.37	24.36	358.4	.036
20	13.05	32.361	A.05					20	13.05	32.37	24.37	357.0	.072
30	13.02	32.365	A.07					30	13.02	32.37	24.39	357.2	.107
40	13.06	32.364	A.06					50	12.53	32.40	24.50	344.0	.178
50	12.53	32.402	A.28					75	8.74	32.54	25.26	273.4	.255
62	9.12	32.435	A.42					100	7.67	32.77	25.60	201.8	.319
75	4.74	32.540	A.35					150	7.72	31.83	26.27	174.1	.425
100	7.66	32.744	A.24					200	7.39	31.90	26.53	135.1	.495
125	8.44	33.499	A.31					250	6.81	31.98	26.67	142.4	.542
150	7.72	33.629	A.44					300	6.24	34.00	26.76	134.4	.582
200	7.18	33.498	A.17					400	5.73	34.08	26.89	123.4	.780
300	6.24	33.992	A.05					500	5.15	34.12	26.99	113.4	.899
401	5.73	34.040	A.25					600	4.42	34.20	27.11	101.3	1.007
602	4.41	34.197	A.43					700	4.32	34.43	27.32	83.3	1.100
803	4.10	34.625	A.40					800	4.11	34.62	27.50	67.2	1.176
1003	3.58	34.403	A.47					1000	3.49	34.41	27.38	78.6	1.321
1204	3.66	34.464	A.52					1200	3.65	34.46	27.42	76.7	1.376

NOT REPRODUCIBLE

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ _t	δ	Δδ
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(m)	(°C)	(‰)		(10 ⁶)	(dva ml)
NM 125	44.19.14	32.59.0	W	DATE 24 NOV 69	1217	ACT	WIRE 00	DMY 44.2	NET 44.4	COINSE	14911C		
WIND DIRECTION		VEL 00 KTS		BAR 31	SWELL	DIRECTION	TO M	ON T	IN CLOUD	A	ANT	7	WEATHER 01
0	11.07	32.434	4.10					0	13.07	32.44	24.42	352.5	0
10	13.07	32.424	4.04					10	13.17	32.43	24.42	351.1	.015
20	13.06	32.432	4.09					20	13.06	32.44	24.42	352.4	.071
30	11.34	32.424	4.08					30	13.04	32.43	24.42	351.3	.106
40	13.02	32.464	4.09					40	12.95	32.47	24.47	347.1	.176
50	12.45	32.463	4.10					50	8.42	32.51	25.23	274.4	.254
60	12.27	32.467	4.15					100	7.40	32.67	25.49	252.0	.120
75	8.42	32.510	4.62					150	7.45	32.50	26.14	191.0	.431
100	7.49	32.670	4.01					200	7.24	32.43	26.49	154.0	.419
125	7.82	33.035	4.29					250	6.69	32.44	26.45	144.0	.594
150	7.45	33.493	4.22					300	6.15	32.95	26.73	114.4	.444
200	7.27	33.425	3.56					400	5.32	34.04	26.40	121.7	.793
301	6.14	33.953	2.40					500	4.46	34.12	27.02	110.0	.404
402	5.31	34.040	1.46					600	4.59	34.20	27.12	102.4	1.015
603	4.58	34.204	0.56					700	4.31	34.27	27.20	94.4	1.114
804	4.06	34.330	0.41					800	4.07	34.33	27.27	84.4	1.205
1005	3.60	34.427	0.38					1000	3.61	34.43	27.40	77.4	1.171
1206	3.10	34.479	0.50					1200	3.12	34.48	27.49	69.0	1.518

MM 145 44 39.0 N 127 27.0 W DATE 24 NOV 69 1542 GCT WIRE 00 DRY 52.3 WET 51.0 CRUISE Y69110
WIND DIRECTION VEL ON KTS BAR 31 SWELL DIRECTION 29 M OB 1 06 CLSD 6 AMT 2 WEATHER 02

0	12.74	32.471	6.01	0	12.74	32.48	24.52	343.6	0
10	12.86	32.466	5.56	10	12.86	32.47	24.49	344.4	.734
20	12.85	32.466	4.01	20	12.85	32.47	24.49	344.4	.769
30	12.82	32.463	5.98	30	12.82	32.47	24.49	344.3	.104
40	12.84	32.466	6.01	40	12.85	32.47	24.49	347.0	.173
50	12.85	32.466	5.98	50	12.85	32.47	24.49	347.0	.173
62	10.79	32.526	4.44	75	8.74	32.59	25.30	251.4	.250
75	8.74	32.589	4.07	100	7.85	32.86	25.64	237.6	.314
100	7.65	32.857	5.54	150	7.90	33.64	26.25	190.9	.418
125	7.49	33.254	4.70	200	7.43	33.91	26.53	155.3	.502
150	7.39	33.636	3.72	250	6.93	33.93	26.63	144.2	.578
200	7.42	33.903	3.02	300	6.25	33.96	26.73	137.1	.648
301	6.24	33.963	2.35	400	5.43	34.01	26.87	124.7	.779
401	5.42	34.010	1.57	500	5.02	34.10	26.99	113.7	.898
602	4.76	34.196	0.51	600	4.74	34.19	27.09	105.1	1.008
803	3.97	34.305	0.35	700	4.36	34.25	27.18	94.5	1.108
1003	3.50	34.397	0.35	800	3.98	34.30	27.26	84.1	1.201
1204	3.10	34.464	0.48	1000	3.51	34.40	27.38	74.5	1.369
				1200	3.11	34.46	27.47	70.0	1.517

MM 165 66 39.2 N 127 55.0 W DATE 24 NOV 69 1930 ACT WIRE DRY 54.1 WET 49.9 CRUISE Y6911C
WIND DIRECTION 14 VFL 04 KTS BAR 30 SWELL DIRECTION 29 H 08 T 10 CLOUD 8 AMT 4 WEATHER 03

0	12.97	32.462	4.08	0	12.97	32.47	24.46	348.5	0
10	12.93	32.459	4.04	10	12.93	32.46	24.47	348.2	.735
20	12.95	32.461	4.01	20	12.95	32.47	24.47	348.4	.070
30	12.91	32.462	5.93	30	12.91	32.47	24.48	348.0	.104
40	12.93	32.471	4.01	40	12.93	32.48	24.48	348.2	.174
50	12.93	32.471	5.95	50	12.93	32.48	25.14	245.0	.253
60	12.30	32.504	5.96	100	7.80	32.04	25.48	232.9	.320
75	9.69	32.578	4.82	150	7.56	33.44	26.14	190.9	.431
100	7.79	32.639	4.30	200	7.49	33.89	26.40	157.8	.519
125	7.47	32.895	5.82	250	7.05	33.93	26.59	149.4	.585
150	7.55	33.437	4.81	300	6.48	33.94	26.71	139.1	.667
200	7.49	33.882	3.29	400	5.56	34.00	26.85	126.9	.800
301	6.47	33.977	2.32	500	5.06	34.09	26.97	115.1	.921
401	5.55	34.003	1.65	600	4.75	34.13	27.09	105.5	1.032
602	4.75	34.189	0.64	700	4.41	34.27	27.19	94.2	1.132
803	4.08	34.334	0.46	800	4.09	34.33	27.27	88.1	1.225
1004	3.49	34.407	0.55	1000	3.50	34.41	27.39	77.7	1.390
1204	3.03	34.468	0.63	200	3.04	34.47	27.48	58.9	1.537

WM 3 44 39.2 N 126 07.7 W DATE 21 NOV 69 2101 GCT WIRE 00 DRY 44.2 WET 52.9 C WSE Y69110
WIND DIRECTION 18 VEL 04 KTS BAR 29 SWELL DIRECTION 06 H 05 T 10 CLOUD 3 AMT 5 WEATHER 01

0	11.25	32.194	6.35	0	11.25	32.20	24.68	317.6	0
1	11.25	32.256	6.36	10	11.25	32.26	24.63	317.2	0.14
2	11.11	32.327	6.27	20	11.11	32.33	24.71	315.8	0.06
3	11.10	32.544	6.00	30	11.10	32.59	24.91	306.5	0.09

NM 44 39.7 N 124 10.7 W DATE 21 NOV 69 2210 GCT WIRE 00 DRV 55.1 VFT 52.0 CRUISE YAG11C
 WIND DIRECTION 24 VFL 06 KTS HAR 25 SWELL DIRECTION 27 M 05 T 10 CLSDO T 4MT 4 WEATHER 02

0	11.39	32.252	6.36	0	11.39	32.25	24.60	315.7	0
5	11.38	32.252	6.41	10	11.23	32.29	24.65	110.7	0.13
17	11.27	32.285	6.33	20	11.20	32.32	24.64	328.0	0.66
18	11.21	32.294	6.36	30	11.07	32.45	24.80	316.6	0.98
27	11.20	32.314	6.30						
28	11.18	32.341	6.33						
37	11.07	32.444	6.24						
38	11.05	32.415	6.85						
47	11.04	32.776	6.71						
48	10.73	32.972	6.35						

OBSERVED

D T S O₂ PO₄ pH Alk. NO₃
(m) (°C) (‰) (mM) (μM) (meq/l) (μM)

NH 14 44 19.0 V 124 24.8 W DATE 21 NOV 69 2359 ACT WIRE 00 DRY 55.1 WET 40.5 CRUISE Y6911C
WIND DIRECTION VEL 00 KTS BAR 26 SWELL DIRECTION 26 H 05 T 10 CLOUD 0 AMT 3 WEATHER 02

1	12.29	32.230	4.69
5	12.14	32.258	4.25
10	12.11	32.264	4.77
15	11.98	32.270	4.14
20	11.15	32.426	4.54
25	10.40	32.603	4.71
30	10.19	32.697	4.99
35	10.06	33.013	4.29
40	9.82	33.062	4.05
45	9.30	33.174	3.90
50	9.29	33.397	4.21
55	9.24	33.408	4.34
60		33.416	4.21
65	9.21	33.426	3.93
70	9.14	33.474	3.98
75	9.04	33.521	4.38

INTERPOLATED

DERIVED

Z T S σ_t S ΔD
(m) (°C) (‰) (x10³) (dyn/cm)

0	12.29	32.23	24.42	353.1	0
10	12.11	32.27	24.44	347.4	.035
20	11.15	32.43	24.74	319.1	.768
30	10.19	32.70	25.15	293.7	.799
50	9.29	33.40	25.85	217.4	.149
75	9.04	33.53	25.98	205.2	.201

NH 24 44 39.0 V 124 34.6 W DATE 22 NOV 69 0204 ACT WIRE 00 DRY 59.0 WET 58.0 CRUISE Y6911C
WIND DIRECTION VEL 00 KTS BAR 26 SWELL DIRECTION 26 H 07 T 10 CLOUD 5 AMT 2 WEATHER 02

1	12.99	32.273	6.09
10	12.98	32.265	4.59
20	12.93	32.266	5.45
30	12.84	32.269	6.00
40	11.03	32.397	6.18
50	8.77	32.470	4.41
60	8.11	32.600	5.77
70	9.02	33.083	4.71
100	8.70	33.484	4.31
125	8.37	33.749	3.44
150	8.24	33.809	3.29
175	7.93	33.879	3.33

0	12.99	32.28	24.31	362.8	0
10	12.98	32.27	24.31	363.4	.036
20	12.93	32.27	24.32	362.6	.073
30	12.84	32.27	24.34	361.0	.109
50	8.77	32.47	25.20	274.7	.173
75	9.02	33.09	25.44	237.3	.237
100	8.70	33.49	26.01	202.9	.292
150	8.28	33.81	26.33	173.7	.346

NH 34 44 39.2 V 124 52.6 W DATE 22 NOV 69 0408 ACT WIRE 02 DRY 53.2 WET 52.1 CRUISE Y6911C
WIND DIRECTION VEL 00 KTS BAR 26 SWELL DIRECTION 26 H 07 T 06 CLOUD 8 AMT 2 WEATHER 02

0	13.02	32.284	4.19
10	13.02	32.279	4.12
20	12.97	32.280	4.11
30	12.93	32.281	4.11
40	12.73	32.311	4.16
50	9.68	32.450	4.36
60	8.25	32.610	4.55
75	7.40	32.617	4.19
100	7.44	32.710	4.39
125	7.57	33.346	4.51
150	7.66	33.610	3.93
200	7.26	33.860	3.42
300	6.76	33.979	2.13
400	5.37	34.006	1.54

0	13.02	32.29	24.32	362.4	0
10	13.02	32.28	24.31	363.1	.076
20	12.97	32.28	24.32	362.3	.073
30	12.93	32.29	24.33	361.7	.109
50	9.68	32.46	25.05	293.4	.174
75	7.91	32.62	25.45	255.7	.261
100	7.44	32.71	25.49	242.8	.305
150	7.47	33.62	25.75	179.4	.411
200	7.27	33.87	25.52	154.3	.485
250	6.77	33.96	24.66	141.5	.570
300	6.27	33.98	24.74	135.7	.640
400	5.37	34.01	24.87	124.3	.769

NH 44 44 39.1 V 124 37.2 W DATE 22 NOV 69 0625 ACT WIRE 00 DRY 57.3 WET 55.0 CRUISE Y6911C
WIND DIRECTION VEL 00 KTS BAR 26 SWELL DIRECTION 26 H 08 T 09 CLOUD 4 AMT 1 WEATHER 01

0	12.57	32.301	4.20
10	12.59	32.247	4.29
20	12.56	32.244	4.19
30	12.41	32.274	4.19
39	12.52	32.273	4.17
49	12.49	32.269	4.21
61	9.09	32.497	4.39
74	8.51	32.543	4.14
89	7.72	32.824	4.58
121	7.35	33.249	4.74
144	7.56	33.627	3.93
177	7.24	33.901	3.37
207	6.48	33.913	3.32
234	6.10	33.977	2.22
304	5.35	34.060	1.92

0	12.57	32.31	24.42	353.0	0
10	12.59	32.29	24.40	354.4	.115
20	12.56	32.29	24.41	354.3	.071
30	12.51	32.28	24.41	354.3	.106
50	12.22	32.29	24.47	349.1	.177
74	8.57	32.59	25.33	267.5	.254
100	7.69	32.84	25.45	234.7	.317
150	7.55	33.05	25.30	175.7	.420
200	7.20	33.41	24.56	142.3	.502
250	6.45	33.46	24.64	141.0	.575
300	6.07	33.48	24.77	133.4	.644
400	5.32	34.06	24.92	119.4	.770

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
NM 65 44 39.0 N 124 35.0 W DATE 22 NOV 69 0941 GCT WIRE 03 DRY 55.0 WET 50.1 CRUISE Y6911C													
WIND DIRECTION 18 VEL 04 KTS BAR 26 SWELL DIRECTION 26 H 08 T 10 CLOUD 8 AMT 1 WEATHER 02													
7	12.99	32.361	4.09					0	12.99	32.37	24.38	354.3	0
10	13.01	32.353	4.09					10	13.01	32.36	24.37	357.5	.036
20	12.99	32.355	4.08					20	12.99	32.36	24.38	357.2	.071
30	12.96	32.355	4.09					30	12.96	32.36	24.39	354.9	.107
40	12.97	32.355	4.09					50	9.51	32.52	25.12	234.7	.171
50	9.51	32.513	4.92					75	7.45	32.63	25.49	251.8	.239
62	8.16	32.509	6.49					100	7.55	33.06	25.84	213.7	.298
75	7.64	32.622	6.10					150	7.57	33.67	26.32	174.2	.396
100	7.54	33.053	5.27					200	7.29	33.90	26.54	154.2	.478
125	7.41	33.432	4.36					250	6.79	33.96	26.66	143.5	.552
150	7.54	33.664	4.09					300	6.24	33.97	26.73	134.6	.622
200	7.24	33.963	2.44					400	5.40	34.01	26.89	124.0	.752
300	6.24	33.963	2.44					500	4.95	34.11	27.00	112.3	.871
401	5.39	34.015	1.60					600	4.57	34.20	27.11	101.4	.978
602	4.67	34.204	0.58					700	4.36	34.27	27.20	95.3	1.078
802	4.07	34.328	0.31					800	4.08	34.33	27.27	88.9	1.173
1003	3.56	34.407	0.47					1000	3.57	34.41	27.38	74.4	1.336
1204	3.47	34.471	0.59					1200	3.47	34.47	27.44	73.8	1.449

T 1 45 02.7 N 124 44.2 W DATE 23 NOV 69 1655 GCT WIRE DRY WET CRUISE Y6911C													
WIND DIRECTION 27 VEL 14 KTS BAR 21 SWELL DIRECTION 26 H 11 T 12 CLOUD 6 AMT 9 WEATHER													
0	12.25							0	12.25	32.37	24.52	342.8	0
20	12.20							10	12.29	32.36	24.51	344.3	.036
40	12.01							20	12.20	32.36	24.53	342.7	.069
60	8.42							30	12.10	32.36	24.55	341.7	.103
80	7.49							50	10.24	32.52	25.00	299.4	.167
100	7.47							75	7.56	32.63	25.50	250.6	.235
120	7.48							100	7.47	33.06	25.85	217.7	.294
140	7.71							150	7.48	33.67	26.30	175.0	.392
160	7.66							200	7.55	33.90	26.50	157.9	.476
180	7.41												
200	7.55												

NM 65 44 39.0 N 124 03.0 W DATE 24 NOV 69 0456 GCT WIRE 02 DRY 52.9 WET 50.5 CRUISE Y6911C													
WIND DIRECTION 34 VEL 04 KTS BAR 30 SWELL DIRECTION 27 H 09 T 08 CLOUD 7 AMT 7 WEATHER 02													
0	12.99	32.337	4.96					0	12.99	32.34	24.36	358.1	0
10	12.97	32.335	4.84					10	12.97	32.34	24.37	358.1	.036
20	12.95	32.331	4.94					20	12.95	32.34	24.37	358.2	.072
30	12.91	32.330	4.93					30	12.91	32.33	24.37	357.7	.107
40	11.53	32.421	4.13					50	9.70	32.66	25.20	270.4	.171
50	9.70	32.651	4.15					75	8.05	32.66	25.44	254.0	.238
62	8.08	32.493	4.88					100	8.44	33.51	24.00	204.3	.295
75	8.05	32.454	4.85					150	8.29	33.67	24.31	174.4	.390
100	8.24	33.437	4.20					200	7.73	33.93	24.50	157.9	.473
125	8.70	33.701	3.75					250	7.14	33.98	24.62	147.1	.550
150	8.29	33.784	3.35					300	6.64	34.00	24.71	139.5	.621
200	7.73	33.927	2.81					400	5.49	34.04	24.86	124.0	.754
301	6.65	34.003	2.13					500	5.05	34.10	24.98	114.2	.874
402	6.67	34.036	1.47					600	4.83	34.17	25.0	105.2	.944
503	6.62	34.174	0.54					700	4.34	34.24	25.14	94.9	1.045
604	6.10	34.315	0.38					800	4.11	34.31	25.26	88.9	1.174
1005	3.57	34.409	0.37					1000	3.54	34.41	25.38	74.4	1.347
1206	3.11	34.470	0.56					1200	3.12	34.47	25.48	64.8	1.465

OBSERVED

INTERPOLATED

DERIVED

D T S O₂
(m) (°C) (‰) (ml/l)

PO₄ pH Alk. NO₃ SiO₂
(μM) (meq/l) (μM) (μM)

Z T S σ_t S ΔD
(m) (°C) (‰) (10³) (dyn/cm)

YSP 4 28 15.0 N 115 55.0 W DATE 09 JAN 69 0931 GCT WIRE 07 DRY 60.0 WET 56.2 CRUISE YALOCA9
WIND DIRECTION 00 VEL 04 KTS BAR 12 SWELL DIRECTION 18 M 01 T 06 CLUD 6 AMT 8 WEATHER 01

0 16.84 33.885 5.65
9 16.88 33.886 5.66
20 16.85 33.884 5.62
29 16.84 33.882 5.59
49 16.85 33.881 5.27
75 14.33 33.729 4.32
100 12.64 33.783
149 11.72 34.348 1.47
199 11.01 34.436 1.10
300 9.31 34.452 0.61
400 8.43 34.471 0.28
501 7.11 34.409 0.32
602 6.01 34.392 0.28
801 5.05 34.441 0.28
1002 4.24 34.494 0.52
1203 3.62 34.531 0.86

0 16.84 33.89 24.72 123.8 0
10 16.88 33.89 24.71 325.0 .032
20 16.85 33.89 24.72 124.3 .065
30 16.84 33.89 24.72 125.1 .097
50 16.38 33.84 24.79 118.8 .142
75 14.33 33.73 25.14 283.7 .237
100 12.64 33.79 25.55 247.5 .303
150 11.71 34.35 26.17 189.9 .413
200 10.99 34.44 26.34 172.2 .503
250 10.12 34.44 26.52 157.9 .586
300 9.31 34.46 26.67 144.8 .661
400 8.43 34.48 26.82 131.7 .800
500 7.12 34.41 26.96 118.2 .925
600 6.03 34.39 27.10 106.4 1.037
700 5.43 34.41 27.18 99.2 1.139
800 5.05 34.44 27.25 92.0 1.234
1000 4.25 34.50 27.39 79.8 1.406
1200 3.63 34.53 27.44 71.2 1.557

YSP 4 25 35.1 N 114 00.1 W DATE 10 JAN 69 0547 GCT WIRE 02 DRY 64.5 WET 60.0 CRUISE YALOCA9
WIND DIRECTION 30 VEL 10 KTS BAR 13 SWELL DIRECTION 12 M 02 T 05 CLUD AMT 0 WEATHER 01

0 18.98 34.109 4.03
10 18.98 34.120 4.03
19 18.97 34.125 4.03
29 18.47 34.054 5.47
49 17.76 33.949 4.36
75 14.53 33.771 4.15
100 12.82 33.967 3.05
101 12.79 33.979 2.59
104 13.13 34.133 2.29
111 13.19 34.217 1.97
116 12.30 34.088 2.47
121 12.20 34.147 2.18
144 11.58 34.364 1.45
199 11.01 34.534 0.78
299 9.53 34.507 0.35
400 8.29 34.488 1.17
500 7.21 34.445 0.30
601 6.33 34.461 0.18
802 5.17 34.489 0.26
1001 4.24 34.527 0.58
1202 3.69 34.561 0.73
129 3.44 34.568 0.87
159 2.79 34.609 1.33
209 2.07 34.654 2.13
234 1.69 34.680 2.72
304 1.66 34.686 2.89
379 1.64 34.685 2.87
395 1.68 34.686 2.85

2.366

2.354

2.255

2.326

2.336

2.363

2.394

2.427

2.466

0 18.98 34.11 24.37 357.2 0
10 18.98 34.13 24.38 356.7 .036
20 18.93 34.12 24.39 356.1 .071
30 18.45 34.05 24.46 350.0 .107
50 17.45 33.94 24.57 339.4 .176
75 14.53 33.78 25.15 284.7 .254
100 12.82 33.97 25.65 237.7 .319
150 11.55 34.37 26.21 185.5 .425
200 11.00 34.53 26.44 165.1 .512
250 10.27 34.52 26.54 154.8 .592
300 9.52 34.51 26.67 144.4 .667
400 8.29 34.49 26.84 128.3 .803
500 7.21 34.45 26.98 116.6 .926
600 6.34 34.46 27.11 105.5 1.037
700 5.70 34.47 27.20 96.8 1.138
800 5.18 34.49 27.28 90.1 1.231
1000 4.24 34.53 27.41 77.6 1.399
1200 3.70 34.56 27.49 69.4 1.546
1500 2.97 34.60 27.59 60.7 1.742
2000 2.17 34.65 27.70 50.0 2.018
2500 1.80 34.67 27.75 46.1 2.258
3000 1.68 34.68 27.77 45.4 2.486

YSP 7 22 57.3 N 112 05.0 W DATE 11 JAN 69 0928 GCT WIRE 03 DRY 68.5 WET 63.0 CRUISE YALOCA9
WIND DIRECTION 35 VEL 16 KTS BAR 12 SWELL DIRECTION 12 M 02 T 05 CLUD 8 AMT 1 WEATHER 02

0 22.52 34.529 5.10
10 22.52 34.528 5.10
20 22.52 34.527 5.09
24 22.53 34.527 5.06
49 19.36 34.234 4.56
75 14.95 34.319 2.01
100 13.51 34.449 1.14
147 11.63 34.567 0.66
194 10.46 34.577 0.44
294 10.04 34.620 0.12
394 8.83 34.563 0.10
594 6.49 34.483 0.10
801 5.25 34.506 0.41
1001 4.27 34.539 0.41
1201 3.67 34.568 0.73

0 22.52 34.53 23.74 417.4 0
10 22.52 34.53 23.74 417.8 .042
20 22.52 34.53 23.74 418.2 .084
30 22.43 34.51 23.75 417.3 .125
50 19.17 34.24 24.42 354.2 .202
75 14.95 34.32 25.48 253.3 .278
100 13.51 34.45 25.89 215.3 .337
150 11.57 34.57 26.36 171.5 .436
200 10.93 34.58 26.48 160.7 .517
250 10.46 34.40 26.49 152.0 .595
300 10.03 34.52 26.67 144.5 .669
400 8.82 34.56 26.83 131.3 .807
500 7.57 34.51 26.98 117.1 .931
600 6.48 34.48 27.11 105.4 1.042
700 5.78 34.49 27.20 97.1 1.144
800 5.25 34.51 27.28 89.8 1.237
1000 4.27 34.54 27.42 77.1 1.404
1200 3.67 34.57 27.50 69.0 1.550

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
YSP 8 21 00.0 M 104 32.0 W DATE 12 JAN 69 1131 ACT WIRE 02 DRY 73.0 WET 49.0 CRUISE YALCC69														
WIND DIRECTION 00 VEL 10 KTS BAR 11 SWELL DIRECTION 70 M 02 T 05 CLCUD 8 AMT 0 WEATHER 02														
0	24.85	34.281	4.86						0	24.85	34.29	22.87	500.4	0
10	24.18	34.435	4.87						10	24.19	34.44	23.19	470.5	.049
20	23.97	34.451	4.91						20	23.98	34.47	23.27	443.1	.095
30	23.73	34.501	4.97						30	23.73	34.51	23.37	453.4	.141
40	23.40	34.491	4.97						40	23.22	34.49	23.51	441.5	.231
75	17.72	34.408	2.50						75	17.73	34.41	24.21	307.9	.324
100	13.89	34.445	1.02						100	13.89	34.45	25.81	223.2	.391
140	12.81	34.735	0.13						150	12.77	34.74	26.26	181.4	.492
199	11.93	34.750	0.12						200	11.91	34.75	26.43	165.8	.578
299	10.48	34.652	0.15						250	11.15	34.71	26.54	156.5	.659
401	9.06	34.408	0.08						300	10.47	34.65	26.62	149.4	.736
602	4.78	34.518	0.09						400	9.07	34.61	26.82	132.0	.876
803	5.34	34.523	0.15						500	7.44	34.56	26.98	117.8	1.001
1003	4.56	34.544	0.27						600	6.40	34.52	27.09	107.6	1.114
1204	3.80	34.576	0.56						700	5.98	34.52	27.20	97.3	1.216
1496	2.98	34.510	1.31						800	5.36	34.52	27.28	89.9	1.310
1695	2.64	34.425	1.07						1000	4.57	34.54	27.39	80.4	1.480
1996	2.22	34.447	2.57						1200	3.41	34.58	27.49	70.2	1.630
2495	1.84	34.559	2.55						1500	2.97	34.61	27.60	59.6	1.825
2696	1.81	34.570	2.58						2000	2.22	34.65	27.70	50.5	2.100
2795	1.82	34.569	2.59						2500	1.84	34.67	27.75	46.8	2.343
2846	1.82	34.669	2.59											

YSP 9 19 05.2 M 104 00.0 W DATE 13 JAN 69 1549 ACT WIRE 04 DRY 79.9 WET 75.5 CRUISE YALCC69

WIND DIRECTION 08 VEL 01 KTS BAR 15 SWELL DIRECTION 13 M 02 T 06 CLCUD 8 AMT 2 WEATHER 02

0	27.10	33.783	4.73						0	27.10	33.99	21.95	588.7	0
9	27.10	33.785	4.81						10	27.09	34.00	21.96	588.0	.059
19	27.04	34.146	4.78						20	26.96	34.16	22.13	572.6	.117
29	25.68	34.280	4.78						30	25.38	34.29	22.71	516.8	.171
40	19.61	34.357	2.87						50	19.21	34.37	24.51	345.3	.258
75	15.92	34.570	0.68						75	15.92	34.58	25.46	255.7	.333
99	14.16	34.558	0.12						100	14.11	34.68	25.93	212.0	.391
147	12.87	34.312	0.11						150	12.83	34.81	26.31	177.0	.488
198	12.37	34.312	0.11						200	12.30	34.81	26.51	168.3	.575
298		34.759	0.10						250	11.49	34.79	26.51	159.9	.657
398	3.77	34.573	0.10						300	11.06	34.76	26.60	152.3	.735
597	5.14	34.548	0.10						400	9.74	34.67	26.76	138.2	.880
798	5.53	34.538	0.13						500	8.76	34.60	26.93	122.8	1.010
									600	7.11	34.55	27.07	109.9	1.127
									700	6.18	34.54	27.19	98.3	1.231
									800	5.51	34.54	27.28	90.4	1.325

YSP 10 17 39.9 M 102 30.0 W DATE 14 JAN 69 1122 ACT WIRE 02 DRY 78.2 WET 75.2 CRUISE YALCC69

WIND DIRECTION 02 VEL 02 KTS BAR 13 SWELL DIRECTION 27 M 02 T 07 CLCUD 8 AMT 2 WEATHER 02

0	27.72	33.992	4.85						0	27.73	34.00	21.76	407.2	0
10	27.72	33.996	4.79						10	27.71	34.00	21.74	407.2	.061
20	27.71	33.990	4.77						20	27.71	34.00	21.76	407.7	.121
30	27.62	33.991	4.77						30	27.63	34.00	21.79	405.2	.182
40	25.04	34.189	4.39						50	21.35	34.38	22.95	398.8	.292
49	21.55	34.372	2.16						75	18.45	34.53	24.80	319.1	.372
75	14.55	34.523	0.88						100	14.40	34.76	25.90	214.5	.439
100	14.40	34.760	0.09						150	13.11	34.84	26.27	180.8	.518
150	13.11	34.331	0.11						200	12.32	34.82	26.41	168.1	.625
201	12.11	34.820	0.09						250	11.80	34.80	26.49	161.3	.707
302	11.28	34.765	0.11						300	11.30	34.77	26.56	155.8	.787
402	9.74	34.675	0.09						400	9.77	34.68	26.76	138.4	.934
604	4.79	34.551	0.09						500	8.19	34.60	26.94	119.8	1.063
807	5.49	34.548	0.09						600	6.84	34.55	27.11	105.7	1.173
									100	5.97	34.55	27.23	94.9	1.276
									800	5.51	34.55	27.28	90.0	1.368

YSP 10 17 39.9 M 102 30.0 W DATE 14 JAN 69 1314 ACT WIRE 02 DRY 78.2 WET 75.2 CRUISE YALCC69

WIND DIRECTION 02 VEL 02 KTS BAR 13 SWELL DIRECTION 27 M 01 T 07 CLCUD 8 AMT 2 WEATHER 02

25	27.69	34.005	4.68						0	27.73	34.00	21.76	407.2	0
30	27.68	33.998	4.68						10	27.73	34.00	21.74	407.2	.061
34	26.21	34.166	4.58						20	27.71	34.00	21.76	407.7	.121
40	27.10	34.339	3.73						30	27.69	34.00	21.77	406.6	.182

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ _t	δ	Δσ
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(10 ⁻³)	(dyn/m)

YSP 11 17 03.6 N 102 45.5 W DATE 14 JAN 69 1822 GCT WIRE 02 DRY 80.0 WET 76.0 CRUISE YALCC49
WIND DIRECTION 30 VEL 06 KTS BAR 15 SWELL DIRECTION 16 H 02 T 07 CLUD 8 AMT 1 WEATHER 02

0	28.69	33.213	4.68
10	28.60	33.202	4.64
20	28.59	33.216	4.65
30	28.55	33.275	4.61
40	27.93	33.399	4.68
49	27.42	33.480	3.64
76	19.84	34.498	1.05
99	14.96	34.730	0.12
147	12.86	34.830	0.11
198	12.32	34.806	0.11
299	11.03	34.749	0.11
399	9.47	34.661	0.09
600	7.20	34.574	0.09
801	5.61	34.546	0.09
1001	4.43	34.559	0.30
1202	3.74	34.582	0.71

0	28.69	33.22	20.86	693.4
10	28.60	33.21	20.86	691.9
20	28.59	33.22	20.89	691.0
30	28.55	33.28	20.94	684.8
40	27.93	33.51	21.56	627.4
50	27.20	34.46	24.32	764.3
75	20.14	34.74	25.82	821.8
100	14.85	34.81	26.40	864.8
150	12.81	34.83	26.50	867.7
200	12.30	34.81	26.50	867.7
250	11.69	34.78	26.60	862.1
300	11.01	34.75	26.60	862.1
400	9.45	34.66	26.80	851.3
500	8.21	34.61	26.94	841.9
600	7.20	34.58	27.04	834.0
700	6.74	34.55	27.18	827.7
800	5.62	34.55	27.27	821.6
1000	4.43	34.56	27.42	816.6
1200	3.74	34.58	27.51	812.8

YSP 12 16 30.0 N 100 00.0 W DATE 15 JAN 69 1256 GCT WIRE DRY 78.8 WET 76.0 CRUISE YALCC49
WIND DIRECTION 33 VEL 10 KTS BAR 12 SWELL DIRECTION 16 H 02 T 08 CLUD 8 AMT 1 WEATHER 02

0	27.90	33.676	4.75
10	27.93	33.678	4.75
20	27.82	33.698	4.75
30	24.46	33.923	3.19
40	23.12	34.017	2.91
49	21.93	34.115	2.46
75	18.30	34.515	1.01
99	13.96	34.821	0.09
148	12.95	34.835	0.13
199	12.32	34.815	0.19
299	11.26	34.758	0.16
400	9.87	34.682	0.23
601	7.23	34.570	0.09
801	5.70	34.557	0.19
1001	4.41	34.567	0.52
1203	3.71	34.586	0.76

0	27.90	33.68	21.46	635.5
10	27.94	33.68	21.45	635.6
20	27.82	33.70	21.50	636.1
30	24.46	33.93	22.72	517.1
40	23.12	34.13	23.64	427.0
50	21.93	34.52	24.85	312.7
75	18.30	34.83	26.10	195.4
100	13.96	34.83	26.30	177.2
150	12.95	34.83	26.41	167.3
200	12.32	34.81	26.49	161.4
250	11.78	34.79	26.57	155.4
300	11.25	34.76	26.75	137.3
400	9.88	34.69	26.93	123.2
500	8.48	34.62	27.07	111.1
600	7.24	34.57	27.18	99.7
700	6.39	34.56	27.27	91.9
800	5.71	34.56	27.42	79.8
1000	4.42	34.57	27.51	69.2
1200	3.72	34.59	27.51	69.2

YSP 13 16 00.0 N 100 10.5 W DATE 15 JAN 69 1970 GCT WIRE 10 DRY 83.5 WET 76.0 CRUISE YALCC49
WIND DIRECTION 28 VEL 04 KTS BAR 14 SWELL DIRECTION 10 H 02 T 04 CLUD 8 AMT 2 WEATHER 02

0	28.21	33.728	4.75
10	27.41	33.711	4.76
20	27.98	33.712	4.76
29	26.68	33.773	4.76
39	24.83	33.969	2.47
48	22.21	34.229	1.85
73	18.91	34.666	0.45
97	14.37	34.821	0.13
146	12.93	34.820	0.09
196	11.97	34.787	0.21
295	10.45	34.735	0.09
395	9.80	34.677	0.09
592	7.21	34.582	0.08
793	5.80	34.561	0.09
989	4.79	34.553	0.29
1187	3.88	34.571	0.29
1227*	3.73	34.586	0.41
1526*	3.01	34.614	
2016*	2.16	34.654	2.13
2525*	1.89	34.671	2.60
2924*	1.88	34.673	2.60
3328*	1.90	34.673	2.59
3428*		34.673	2.59
3476*	1.90	34.665	2.59

0	28.21	33.73	21.40	641.4
10	27.42	33.72	21.65	413.2
20	27.98	33.72	21.44	435.1
30	26.63	33.79	21.94	544.8
40	24.83	34.28	23.79	413.2
50	21.48	34.69	25.34	261.1
75	18.43	34.82	26.03	202.2
100	14.20	34.82	26.71	175.9
150	12.84	34.82	26.71	175.9
200	11.91	34.78	26.84	167.2
250	11.29	34.74	26.94	155.0
300	10.80	34.73	26.93	148.5
400	9.73	34.67	26.77	137.9
500	8.39	34.62	26.94	121.5
600	7.14	34.59	27.09	107.9
700	6.35	34.57	27.19	99.0
800	5.74	34.56	27.24	92.4
1000	4.73	34.55	27.38	81.8
1200	3.83	34.59	27.49	72.3
1500	3.04	34.61	27.60	67.5
2000	2.18	34.65	27.71	47.7
2500	1.89	34.67	27.74	47.4
3000	1.88	34.67	27.75	44.8

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/cm)

YSP 17 13 30.0 N 093 30.3 W DATE 18 JAN 69 2211Z WIRE 09 DRY 79.2 WET 72.3 CRUISE YALCAG
WIND DIRECTION 32 VEL 04 KTS RAR 10 SWELL DIRECTION 18 H 01 T 14 CLOUD 6 AMT 1 WEATHER 02

0	27.05	33.474	- .80	0	27.05	33.48	21.55	623.4	0
10	26.60	33.454	4.80	10	26.60	33.46	21.71	612.5	.062
19	25.78	33.6	5.08	20	25.47	33.68	22.25	561.5	.120
29	22.08	34.0.2	3.72	30	21.94	34.02	23.51	440.7	.170
39	20.61	34.117	3.03	50	16.27	34.77	25.53	248.1	.219
49	18.50	34.746	0.23	75	13.77	34.87	26.14	184.5	.244
74	13.81	34.864	0.19	100	13.35	34.88	26.25	180.7	.340
99	13.36	34.882	0.21	150	12.73	34.86	26.36	171.5	.428
147	12.77	34.862	0.28	200	12.10	34.82	26.45	164.7	.512
197	12.13	34.821	0.17	250	11.61	34.80	26.53	157.7	.593
248	11.63	34.801	0.19	300	11.04	34.76	26.61	151.4	.670
299	11.05	34.761	0.19	400	9.48	34.69	26.74	139.4	.815
403	9.84	34.693	0.09	500	8.55	34.63	26.82	123.5	.946
599	7.38	34.589	0.07	600	7.37	34.59	27.7	110.7	1.063
800	5.78	34.562	0.09	700	6.48	34.57	27.14	100.5	1.169
998	4.76	34.566	0.28	800	5.79	34.57	27.26	92.3	1.265
1199	4.07	34.540	0.63	1000	4.75	34.57	27.39	81.1	1.438

YSP 18 12 18.5 N 091 20.5 W DATE 19 JAN 69 1435 GCT WIRE 07 DRY 80.0 WET 74.3 CRUISE YALCCAG
WIND DIRECTION 00 VEL 06 KTS BAR 13 SWELL DIRECTION 12 H 01 T 08 CLOUD 8 AMY 2 WEATHER 02

0	27.09	33.350	4.83	0	27.09	33.35	21.44	434.9	0
10	27.08	33.350	4.83	10	27.08	33.35	21.44	634.7	.063
20	26.58	33.470	4.83	20	26.58	33.47	21.73	610.4	.124
30	25.69	33.556	4.26	30	25.69	33.55	22.37	578.2	.185
40	25.41	33.605	3.91	50	23.45	34.05	23.11	479.5	.291
48	23.97	33.968	3.55	75	17.74	34.74	25.24	276.6	.385
75	17.38	34.731	0.94	100	15.22	34.83	25.31	223.1	.448
98	15.34	34.821	0.28	150	13.57	34.86	26.19	187.9	.550
148	13.61	34.863	0.17	200	12.04	34.86	26.32	177.0	.642
199	12.95	34.860	0.13	250	12.20	34.81	26.43	167.4	.724
248	12.23	34.913	0.09	300	11.53	34.78	26.53	159.1	.810
298	11.56	34.781	0.13	400	10.04	34.71	26.73	141.4	.960
398	10.11	34.707	0.09	500	8.53	34.64	26.93	122.5	1.092
597	7.18	34.585	0.09	600	7.15	34.58	27.10	107.4	1.207
796	5.57	34.560	0.11	700	6.23	34.56	27.20	97.4	1.309
994	4.52	34.564	0.39	800	5.54	34.56	27.29	89.6	1.403
1194	3.84	34.543	0.73	1000	4.49	34.57	27.42	77.7	1.570
				1200	3.82	34.58	27.50	69.6	1.717

YSP 19 11 05.5 N 090 09.5 W DATE 20 JAN 69 0747 ZCT WIRE 07 DRY 77.9 WET 75.0 CRUISE YALSCA9
WIND DIRECTION 34 VEL 02 KTS BAR 12 SWELL DIRECTION 32 H 01 T 12 CLDUD 8 AMT 1 WEATHER 02

0	25.78	33.925	4.60	0	25.79	33.93	22.32	553.2	0
10	25.39	33.923	4.56	10	25.40	33.93	22.44	542.3	.055
20	25.27	33.932	4.51	20	25.27	33.94	22.48	534.6	.109
30	25.12	33.959	4.50	30	25.13	33.96	22.55	532.5	.162
40	24.09	34.273	4.00	40	19.81	34.51	24.46	350.4	.251
50	19.81	34.505	1.56	50	15.44	34.59	25.38	244.4	.325
75	15.44	34.583	0.73	100	14.21	34.89	26.08	197.0	.380
99	14.24	34.890	0.39	150	13.45	34.90	26.24	183.0	.475
149	13.44	34.901	0.39	200	12.75	34.86	26.35	174.9	.544
199	12.79	34.863	0.38	250	12.27	34.84	26.34	167.9	.657
247	12.32	34.843	0.24	300	11.59	34.81	26.54	155.1	.731
264*	11.98	34.821		400	9.79	34.69	26.77	137.5	.879
291*	11.56	34.791	0.14	500	8.23	34.62	26.97	114.8	1.007
300	11.58	34.801	0.11	600	7.01	34.59	27.12	105.7	1.119
316*	11.25		0.09	700	6.24	34.57	27.21	97.0	1.220
341*	10.84	34.751	0.13	800	5.49	34.57	27.29	90.5	1.314
365*	10.45	34.724	0.11	1000	4.72	34.57	27.39	84.6	1.445
407	9.79	34.688	0.09	1200	4.01	34.59	27.44	71.9	1.637
598	7.03	34.586	0.15	1500	3.15	34.62	27.60	61.0	1.834
800	5.69	34.569	0.15	2000	2.27	34.65	27.70	50.9	2.118
999	4.72	34.567	0.28	2500	1.89	34.67	27.75	47.2	2.361
1199	4.01	34.583	0.73	3000	1.45	34.68	27.75	44.1	2.549
1221*		34.601	0.91						
1620*	2.87	34.629	1.45						
2120*	2.15	34.658	2.20						
2620*	1.85	34.676	2.59						
3119*	1.47	34.677	2.67						
3420*	1.88	34.677	2.67						
3520*	1.87	34.677	2.69						
3581*	1.90	34.677	2.69						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
YSP 20 10 06.0 N 087 28.0 W DATE 20 JAN 69 0543 ACT WIRE 06 DRY 79.4 WET 76.0 CRUISE YALCC49														
WIND DIRECTION 33 VEL 02 KTS BAR SWELL DIRECTION 08 H 01 T 08 CLUD 8 AMT 2 WEATHER 02														
0	27.25	34.863	4.82						0	27.25	34.87	22.54	530.0	0
10	25.81	33.927	4.77						10	25.81	33.93	22.31	454.1	.054
20	22.31	34.166	3.8						20	22.31	34.17	23.57	434.7	.104
30	16.18	34.830	1.10						30	16.18	34.83	25.50	241.1	.134
40	15.61	34.850	0.80						40	15.61	34.88	25.91	212.4	.143
50	14.96	34.871	0.68						50	14.96	34.91	26.04	194.9	.235
75	14.37	34.900	0.67						75	14.38	34.91	26.15	190.6	.243
99	13.97	34.912	0.61						100	13.96	34.91	26.25	182.3	.376
148	13.45	34.902	0.36						150	13.43	34.90	26.33	176.5	.466
198	13.02	34.885	0.22						200	13.00	34.88	26.40	170.6	.553
248	12.53	34.854	0.13						250	12.51	34.85	26.50	162.0	.636
300	11.84	34.813	0.09						300	11.84	34.82	26.80	134.9	.764
400	9.72	34.708	0.09						400	9.72	34.71	26.99	116.6	.910
600	6.98	34.590	0.09						500	8.14	34.64	27.13	104.4	.021
801	5.58	34.568	0.17						600	6.98	34.59	27.22	96.1	.121
1001	4.57	34.570	0.59						700	6.17	34.57	27.29	89.5	.214
1201	3.86	34.586	0.89						800	5.58	34.57	27.41	78.6	.382
									1000	4.57	34.57	27.50	70.0	.530
									1200	3.86	34.59			

YSP 21 08 40.2 N 095 00.0 W DATE 22 JAN 69 0407 ACT WIRE 00 DRY 80.4 WET 76.0 CRUISE YALCC49														
WIND DIRECTION 22 VEL 02 KTS BAR 12 SWELL DIRECTION H 00 T CLUD 8 AMT 1 WEATHER 02														
0	28.79	31.485	4.68						0	28.79	31.49	19.53	821.1	0
5	28.98	32.590	4.80						10	28.63	32.49	20.63	715.4	.077
10	28.62	32.884	4.85						20	28.01	33.22	21.08	472.9	.146
15	28.42	33.033	4.76						30	26.50	33.61	21.86	598.2	.210
20	28.01	33.214	4.85						50	21.81	34.60	23.99	395.3	.309
25	27.19	33.286	4.87											
30	26.49	33.609	4.90											
35	26.42	33.652	4.95											
40	24.88	33.830	5.02											
45		34.077	3.67											
50		34.593	2.95											
55	20.28	34.645	2.69											

YSP 21 08 40.0 N 095 00.0 W DATE 22 JAN 69 0035 ACT WIRE 04 DRY 82.0 WET 76.1 CRUISE YALCC49														
WIND DIRECTION 26 VEL 05 KTS BAR 11 SWELL DIRECTION H 00 T CLUD 8 AMT 6 WEATHER 02														
0	29.06	31.603	4.69						0	29.06	31.61	19.53	821.2	0
10	29.01	32.465	4.84						10	29.01	32.47	20.19	759.0	.079
20	28.30	33.010	4.85						20	28.30	33.01	20.83	696.6	.152
30	26.73	33.531	4.96						30	24.73	33.54	21.73	611.1	.217
40	23.56	33.899	3.85						50	20.65	34.64	24.34	361.8	.314
50	20.64	34.637	2.90						75	17.82	34.77	25.16	284.1	.395
76	17.78	34.776	1.74						100	16.01	34.83	25.64	239.4	.450
100	16.01	34.830	1.39						150	13.87	34.91	26.17	190.3	.568
149	13.89	34.911	0.69						200	13.33	34.90	26.27	181.8	.661
200	13.33	34.895	0.71						250	12.85	34.88	26.35	175.1	.750
249	12.86	34.880	0.30						300	12.04	34.83	26.47	164.7	.835
300	12.04	34.827	0.15						400	9.47	34.69	26.81	132.2	.943
401	9.44	34.690	0.07						500	7.80	34.63	27.03	112.2	1.106
602	6.74	34.599	0.25						600	6.75	34.60	27.16	101.0	1.212
804	5.71	34.586	0.65						700	6.14	34.59	27.24	94.4	1.310
1003	4.68	34.587	0.88						800	5.72	34.59	27.29	90.0	1.402
1204	3.95	34.595	1.04						1000	4.49	34.59	27.41	78.8	1.571
									1200	3.96	34.59	27.49	70.5	1.720

YPT 22 09 06.4 N 084 26.2 W DATE 25 JAN 69 2226 ACT WIRE 00 DRY 84.7 WET 77.9 CRUISE YALCC49														
WIND DIRECTION 20 VEL 06 KTS BAR 08 SWELL DIRECTION 20 H 01 T 14 CLUD 8 AMT 2 WEATHER 02														
0	29.42	31.044	4.84						0	29.42	31.05	18.99	872.8	0
10	28.55	31.794	4.81						10	28.55	31.80	19.84	791.3	.083
20	28.37	32.667	4.82						20	28.38	32.47	20.55	723.5	.159
30	27.43	33.255	4.40						30	27.43	33.26	21.17	664.7	.228
40	24.18	34.096	3.98						50	20.40	34.50	24.24	371.3	.332
50	20.60	34.491	2.25						75	16.23	34.83	25.59	243.8	.409
75	16.23	34.826	0.93						100	15.05	34.89	25.90	214.5	.466
99	15.08	34.890	0.79						150	14.00	34.92	26.15	192.5	.568
149	14.01	34.916	0.70						200	13.58	34.91	26.21	185.8	.642
199	13.49	34.912	0.70						250	13.02	34.89	26.31	177.9	.753
249	13.04	34.884	0.37						300	11.74	34.83	26.51	159.4	.838
300	11.74	34.820	0.19						400	9.38	34.69	26.84	130.5	.943
400	9.37	34.689	0.09						500	7.96	34.63	27.01	114.6	1.105
601	7.04	34.599	0.19						600	7.05	34.60	27.12	105.2	1.215
804	5.44	34.576	0.56						700	6.17	34.58	27.23	95.2	1.315
904		34.577	0.74						800	5.46	34.58	27.31	87.3	1.406

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ _t	δ	Δσ
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(x10 ³)	(dyn/cm)
YPT 23 09 31.1 N 087 53.0 W DATE 26 JAN 69 0503 ICT WIRE 05 DRY 81.9 WET 77.0 CRUISE YALCC49														
WIND DIRECTION 22 VEL 04 KTS BAR 11 SWELL DIRECTION 19 M 01 T 04 CLOUD 8 AMT 2 WEATHER 03														
0	29.29	30.719	4.40						0	29.29	30.72	18.74	892.7	0
10	29.32	30.772	4.45						10	29.32	30.78	18.87	889.7	.089
20	28.86	32.527	4.84						20	28.86	32.53	20.26	747.1	.171
30	26.16	33.391	4.50						30	26.17	33.10	21.54	425.4	.240
40	21.09	34.11	7.74						40	19.53	34.17	24.41	153.4	.338
50	19.53	34.367	1.82						50	15.43	34.91	25.81	221.1	.409
75	15.43	34.900	0.98						75	14.69	34.93	26.01	204.4	.463
100	14.69	34.925	0.93						100	14.08	34.92	26.13	193.4	.562
150	14.08	34.917	0.74						150	13.64	34.91	26.27	186.7	.657
201	13.63	34.914	0.53						200	13.37	34.90	26.27	183.4	.750
250	13.37	34.903	0.43						250					
YPT 24 08 21.2 N 087 12.5 W DATE 26 JAN 69 1040 ICT WIRE 05 DRY 79.9 WET 76.4 CRUISE YALCC49														
WIND DIRECTION VEL 00 KTS BAR 09 SWELL DIRECTION 18 M 01 T 10 CLOUD 8 AMT 0 WEATHER 02														
0	29.03	30.791	4.71						0	29.03	30.80	18.43	878.7	0
10	28.78	31.265	4.76						10	28.78	31.27	19.37	837.1	.086
20	27.38	32.022	4.15						20	27.38	32.03	20.30	739.1	.165
30	25.54	32.773	3.52						30	25.54	32.78	21.57	430.7	.233
40	21.55	34.033	2.53						40	18.42	34.57	24.54	712.7	.327
50	18.41	34.562	1.43						50	15.82	34.84	25.83	234.1	.396
75	15.81	34.849	0.91						75					
91	14.98	34.897	0.70											
YPT 25 08 09.1 N 087 19.3 W DATE 26 JAN 69 1431 ICT WIRE 05 DRY 82.0 WET 77.0 CRUISE YALCC49														
WIND DIRECTION 27 VEL 06 KTS BAR 11 SWELL DIRECTION 19 M 01 T 04 CLOUD 8 AMT 6 WEATHER 02														
0	29.05	30.693	4.05						0	29.05	30.70	18.74	886.4	0
10	29.73	31.490	4.82						10	28.73	31.50	19.54	819.7	.085
20	27.83	32.502	4.78						20	27.83	32.51	20.67	714.4	.162
30	26.08	33.209	4.52						30	26.08	33.21	21.53	414.4	.229
49	21.00	34.264	2.38						40	17.34	34.72	25.24	275.7	.318
74	17.54	34.702	1.19						50	15.14	34.91	25.83	214.7	.379
98	15.18	34.903	0.85						75	14.57	34.93	26.13	202.7	.431
149	14.61	34.924	0.94						100	13.89	34.93	26.14	189.7	.529
198	13.90	34.931	0.68						150	13.36	34.91	26.27	181.5	.622
249	13.37	34.911	0.63						200	13.06	34.89	26.32	178.7	.712
300	13.07	34.884	0.30						250	12.14	34.84	26.46	166.2	.798
400	12.14	34.831	0.13						300	9.44	34.71	26.41	133.7	.948
601	9.64	34.706	0.07						400	7.84	34.63	27.13	112.5	1.071
802	6.62	34.595	0.29						500	6.63	34.60	27.14	99.5	1.177
1003	5.40	34.581	0.72						600	5.49	34.59	27.27	91.7	1.272
1189	4.51	34.584	1.09						700	5.41	34.58	27.32	86.2	1.361
1489	4.03	34.597	1.26						800	4.52	34.53	27.43	76.3	1.524
1688	3.99	34.595	1.33						1000	4.00	34.60	27.49	71.7	1.671
1737	3.09	34.623	1.76						1200	3.09	34.62	27.50	60.7	1.868
1763	3.07	34.624	1.73											
1763	3.00	34.623	1.73											
1763	3.01	34.626	1.76											
1763	3.01	34.626	1.76											
YPT 26 07 41.3 N 083 47.1 W DATE 27 JAN 69 0004 ICT WIRE 10 DRY 81.5 WET 76.9 CRUISE YALCC49														
WIND DIRECTION 22 VEL 05 KTS BAR 07 SWELL DIRECTION 20 M 01 T 06 CLOUD 8 AMT 2 WEATHER 00														
0	28.77	32.014	4.67						0	28.77	32.02	19.54	788.8	0
10	28.66	32.420	4.73						10	28.67	32.42	20.27	750.1	.077
19	27.93	33.473	4.83						20	27.74	33.59	21.45	437.1	.146
29	25.68	34.415	4.99						30	25.44	34.41	22.74	310.5	.204
39	23.40	34.378	4.07						40	19.66	34.59	24.54	141.1	.294
49	19.87	34.572	2.25						50	16.82	34.53	25.44	254.7	.364
73	17.00	34.817	1.35						75	15.04	34.95	25.74	211.1	.422
98	15.16	34.947	1.46						100	14.04	34.74	26.19	191.4	.523
147	14.07	34.936	1.17						150	13.59	34.32	26.27	185.4	.617
198	13.61	34.920	0.72						200	13.01	34.29	26.32	177.9	.704
247	13.05	34.887	0.30						250	12.37	34.45	26.44	164.1	.794
298	12.34	34.853	0.24						300	10.12	34.73	26.74	140.1	.948
398	10.16	34.734	0.09						400	8.71	34.45	26.99	114.7	1.077
598	6.75	34.599	0.21						500	6.73	34.40	27.17	100.4	1.144
798	5.41	34.579	0.65						600	5.92	34.59	27.24	91.8	1.282
996	4.66	34.585	1.05						700	5.42	34.59	27.32	84.3	1.371
1197	3.84	34.598	1.30						800	4.44	34.59	27.41	74.3	1.535
1345	3.49	34.609	1.45						1000	3.83	34.60	27.51	64.7	1.682
									1200					

OBSERVED

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DERIVED 125

D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	C _i	B	ΔD
(m)	(°C)	(‰)	(ml/l)	(μM)		(meq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(μM)	(dyn.m)

YPT 27 07 14.5 N 084 14.0 W DATE 27 JAN 69 0645 GCT WIRE 04 DRY 80.3 WET 75.9 CHISEL VALCC49
WIND DIRECTION 25 VEL 04 KTS BAR 10 SWELL DIRECTION 20 M 01 T 06 CLOUD 8 AMT 2 WEATHER 02

0	28.75	31.964	4.70						0	28.75	31.97	19.90	785.3	0
10	29.58	32.731	4.42						10	29.58	32.74	20.51	725.2	.076
20	27.08	33.560	4.44						20	27.08	33.56	21.64	619.3	.143
30	26.53	34.016	4.90						30	26.53	34.02	22.16	570.1	.232
40	21.19	34.514	7.94						40	20.97	34.54	24.17	377.4	.277
75	17.02	34.826	1.67						75	17.02	34.83	25.40	261.4	.377
99	15.77	34.893	1.15						100	15.72	34.89	25.75	224.4	.434
148	14.11	34.919	0.68						150	14.07	34.92	26.13	193.4	.544
199	13.48	34.907	7.41						200	13.47	34.91	26.25	183.9	.614
247	12.98	34.882	0.23						250	12.97	34.88	26.33	177.3	.724
298	12.69	34.863	0.19						300	12.65	34.86	26.38	174.0	.816
398	10.16	34.746	0.09						400	10.11	34.74	26.76	139.2	.973
597	8.54	34.591	0.19						500	8.04	34.65	27.02	113.4	.039
797	5.34	34.580	0.62						600	6.51	34.59	27.19	94.3	.235
994	4.51	34.586	0.98						700	5.75	34.59	27.28	84.3	.240
1143	4.01								800	5.33	34.58	27.37	85.2	.340
									1000	4.49	34.59	27.47	76.3	.544

YPT 28 06 45.6 N 084 44.4 W DATE 27 JAN 69 1318 GCT WIRE 03 DRY 83.8 WET 77.0 CHISEL VALCC49
WIND DIRECTION 17 VEL 04 KTS BAR 07 SWELL DIRECTION 18 M 01 T 06 CLOUD 8 AMT 6 WEATHER 02

0	28.41	33.279	4.67	8.291	2.242				0	28.42	33.28	21.00	680.0	0
10	28.17	33.408	4.77						10	28.17	33.41	21.17	663.6	.057
20	27.45	33.505	4.82						20	27.46	33.51	21.44	634.4	.132
30	26.99	33.670	4.86						30	27.00	33.67	21.75	604.0	.194
40	27.00	34.041	4.89						40	25.84	34.30	22.54	429.9	.304
50	25.84	34.299	4.75						50	25.84	34.30	22.54	429.9	.304
76	17.77	34.748	1.41						75	18.10	34.74	25.07	293.1	.411
99	15.07	34.903	0.89						100	15.01	34.91	25.92	212.7	.474
149	13.70	34.910	0.57						150	13.69	34.91	26.21	185.6	.574
194	13.20	34.900	0.30						200	13.19	34.90	26.30	178.9	.655
244	12.77	34.876	0.31						250	12.74	34.87	26.37	173.4	.753
299	11.75	34.818	0.15						300	11.73	34.82	26.52	159.9	.837
401	9.55	34.697	0.07						400	9.57	34.70	26.81	133.4	.983
600	6.68	34.593	0.20						500	7.90	34.63	27.02	113.5	1.107
800	5.46	34.581	0.62						600	6.69	34.60	27.17	100.2	1.214
1007	4.44	34.587	0.99						700	5.95	34.59	27.26	91.9	1.309
1201	3.71	34.601	1.33						800	5.46	34.59	27.32	86.6	1.399
									1000	4.47	34.59	27.43	76.0	1.561
									1200	3.71	34.60	27.52	67.0	1.704

YPT 29 06 18.0 N 085 12.2 W DATE 27 JAN 69 1935 GCT WIRE 04 DRY 83.0 WET 77.3 CHISEL VALCC49
WIND DIRECTION 24 VEL 04 KTS BAR 14 SWELL DIRECTION 19 M 01 T CLOUD 8 AMT 2 WEATHER 02

0	28.73	32.686	4.71	8.302	2.216				0	28.73	32.69	20.45	732.4	0
10	28.33	32.785	4.80						10	28.33	32.79	20.65	713.4	.072
20	28.03	33.038	4.80						20	28.03	33.04	20.94	685.2	.142
30	26.85	33.269	4.80						30	26.85	33.27	21.49	633.6	.204
40	25.82	33.443	4.71						40	23.37	33.94	23.04	483.9	.320
50	23.32	33.935	3.76						50	23.37	33.94	23.04	483.9	.320
75	17.41	34.783	1.43						75	17.42	34.79	25.28	273.5	.415
100	14.82	34.907	0.82						100	14.82	34.91	25.97	204.4	.475
149	13.92	34.914	0.87						150	13.91	34.91	26.14	193.4	.575
199	13.32	34.907	0.89						200	13.71	34.91	26.28	183.7	.667
300	11.79	34.815	0.30						250	12.59	34.87	26.40	171.0	.755
403	9.99	34.722	0.19						300	11.79	34.82	26.51	160.9	.838
600	7.21	34.608	0.19						400	10.04	34.72	26.75	139.4	.988
802	5.55	34.579	0.55						500	8.40	34.66	26.94	120.6	1.114
1001	4.51	34.583	1.11						600	7.21	34.61	27.11	104.6	1.232
1203	3.85	34.598	1.38						700	6.27	34.59	27.22	95.4	1.333
1501	3.09	34.619	1.71						800	5.56	34.58	27.30	88.4	1.426
1752	2.55	34.639	2.01						1000	4.51	34.58	27.43	75.4	1.591
									1200	3.86	34.60	27.51	69.0	1.737
									1500	3.09	34.62	27.60	60.4	1.931

YPT 30 05 50.0 N 085 41.0 W DATE 28 JAN 69 0256 GCT WIRE 00 DRY 79.0 WET 76.0 CHISEL VALCC49
WIND DIRECTION VEL 00 KTS BAR 06 SWELL DIRECTION 20 M 02 T 06 CLOUD 8 AMT 1 WEATHER 02

0	28.58	32.916		8.293	2.271				0	28.58	32.92	20.87	711.5	0
10	28.37	33.230	4.66						10	28.18	33.24	20.97	682.6	.070
20	28.28	33.284	4.67						20	28.28	33.29	21.04	675.3	.134
29	28.21	33.329	4.67						30	28.20	33.35	21.11	669.4	.205
40	28.15	33.555	4.73						40	26.48	33.65	21.89	595.4	.331
50	26.47	33.645	4.78						50	26.48	33.65	21.89	595.4	.331
74	17.47	34.814	1.97						75	17.31	34.83	25.34	267.7	.439
97	15.48	34.930	1.26						100	15.43	34.93	25.85	219.7	.500
144	14.14	34.934	1.19						150	14.11	34.94	26.14	195.3	.604
194	13.39	34.924	0.89						200	13.57	34.92	26.24	184.7	.694
294	12.17	34.843	0.35						250	12.93	34.89	26.34	174.0	.784
394	9.97	34.734	0.13						300	12.13	34.84	26.44	164.4	.874
594	7.04	34.606	0.24						400	9.93	34.73	26.74	135.4	.974
794	5.69	34.541	0.53						500	8.27	34.66	26.94	117.0	1.122
997	4.42	34.543	1.04						600	7.04	34.61	27.13	104.7	1.242
1194	3.45	34.566	1.34						700	6.25	34.58	27.22	94.1	1.343
1494	3.07	34.624	1.73						800	5.44	34.54	27.29	89.9	1.444
1644	2.43	34.635	1.86						1000	4.41	34.54	27.42	74.3	1.621
									1200	3.94	34.60	27.50	70.2	1.722
									1500	3.07	34.62	27.61	54.7	1.844

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm ²)
YPT 31 05 13.2 N 084 10.0 W DATE 28 JAN 69 0805 GCT WIRE 01 DRY 79.2 WET 74.0 CRUISE YALSC49													
WIND DIRECTION 12 VEL 04 KTS BAR 06 SWELL DIRECTION 19 H 01 T 10 CLOUD 8 AMT 2 WEATHER 02													
0	28.09	30.030	4.74			8.287	2.125	0	28.09	30.03	18.57	903.4	0
10	28.56	32.547	4.71					10	28.56	32.55	20.40	737.4	.042
20	28.74	32.868	4.78					20	28.75	32.87	20.58	720.7	.155
30	28.05	32.908	4.83					30	28.05	32.91	20.64	495.5	.226
40	27.06	33.328	4.90					50	22.15	34.21	23.60	432.4	.339
50	22.15	34.207	4.22					75	15.90	34.91	25.72	230.7	.422
75	15.90	34.907	1.26					100	14.98	34.94	25.96	209.3	.477
99	15.01	34.913	1.24					150	13.85	34.94	26.20	187.3	.578
149	13.86	34.945	1.35					200	13.30	34.91	26.29	183.2	.668
199	13.32	34.913	0.86					250	12.77	34.89	26.37	173.4	.756
300	12.15	34.842	0.41					300	12.15	34.85	26.44	165.4	.841
400	10.37	34.747	0.19					400	10.38	34.75	26.72	143.1	.995
600	7.14	34.608	0.19					500	8.63	34.67	26.74	121.9	1.128
801	5.51	34.580	0.72					600	7.15	34.61	27.12	105.6	1.241
1000	4.66	34.583	0.98					700	6.18	34.59	27.23	95.2	1.342
1201	3.95	34.594	1.41					800	5.52	34.54	27.31	87.7	1.433
1412	3.32	34.614	1.61					1000	4.67	34.53	27.41	75.4	1.599
1476	3.17	34.621	1.72					1200	3.95	34.59	27.49	70.4	1.748
								1500	3.11	34.62	27.60	60.3	1.944

YPT 31 05 37.5 N 086 53.2 W DATE 28 JAN 69 1447 GCT WIRE DRY 82.9 WET 77.5 CRUISE YALSC49													
WIND DIRECTION 14 VEL 04 KTS BAR 18 SWELL DIRECTION 17 H 02 T 05 CLOUD 8 AMT 2 WEATHER 02													
0	28.31	31.639	4.80			8.304	2.166	0	28.31	31.64	19.80	794.9	0
10	28.32	31.632	4.79					10	28.32	31.64	19.79	796.0	.080
20	27.71	32.313	4.85					20	27.71	32.32	20.50	724.4	.156
30	27.44	32.544	4.80					30	27.44	32.55	20.76	703.9	.227
40	27.26	33.179	4.91					50	22.27	34.25	23.59	433.1	.341
50	22.27	34.242	3.22					75	16.40	34.87	25.49	252.5	.427
76	16.72	34.896	1.93					100	14.67	34.93	26.01	203.4	.484
100	14.67	34.927	1.06					150	13.75	34.93	26.21	185.4	.582
148	13.78	34.927	1.02					200	13.19	34.91	26.31	174.5	.673
199	13.20	34.907	0.72					250	12.72	34.87	26.37	173.7	.761
300	12.17	34.818	0.34					300	12.17	34.82	26.44	167.4	.846
400	10.32	34.744	0.09					400	10.32	34.75	26.72	142.4	1.001
599	7.00	34.605	0.19					500	8.40	34.66	26.97	118.5	1.132
650	6.72	34.596	0.28					600	6.99	34.60	27.13	104.0	1.243

YPT 32 04 52.3 N 086 38.0 W DATE 29 JAN 69 0247 GCT WIRE 05 DRY 80.9 WET 77.1 CRUISE YALSC49													
WIND DIRECTION 12 VEL 07 KTS BAR 17 SWELL DIRECTION 27 H 02 T 06 CLOUD 8 AMT 2 WEATHER 02													
0	28.46	31.113	4.71			8.263	2.110	0	28.46	31.12	19.36	837.5	0
10	28.29	31.342	4.73					10	28.29	31.35	19.59	815.0	.043
20	27.81	32.055	4.80					20	27.81	32.06	20.27	750.0	.161
30	27.42	32.602	4.80					30	27.42	32.61	20.81	699.0	.233
40	25.11	32.519	4.34					50	20.59	34.44	24.20	774.3	.341
50	20.58	34.435	2.81					75	16.31	34.91	25.63	233.4	.418
74	16.41	34.904	1.67					100	14.85	34.94	25.98	205.7	.473
99	14.88	34.940	1.44					150	13.91	34.95	26.19	184.4	.572
149	13.92	34.948	1.33					200	13.32	34.91	26.28	181.5	.664
199	13.33	34.912	0.79					250	12.59	34.91	26.43	167.9	.751
248	12.61	34.910	0.53					300	11.72	34.83	26.53	154.1	.833
300	11.72	34.822	0.25					400	9.99	34.72	26.76	134.7	.982
401	9.97	34.720	0.14					500	8.36	34.65	26.97	114.9	1.111
600	6.98	34.603	0.33					600	6.98	34.61	27.14	103.7	1.222
801	5.40	34.570	0.93					700	6.05	34.58	27.24	93.9	1.321
1000	4.64	34.577	1.24					800	5.41	34.57	27.31	87.0	1.411
1101	4.14	34.588	1.39					1000	4.65	34.58	27.41	74.6	1.577

YPT 33 04 26.1 N 087 06.5 W DATE 29 JAN 69 0850 GCT WIRE 05 DRY 80.5 WET 76.1 CRUISE YALSC49													
WIND DIRECTION 16 VEL 10 KTS BAR 06 SWELL DIRECTION 20 H 02 T 12 CLOUD 8 AMT 2 WEATHER 02													
0	28.16	30.848	4.79			8.287	2.079	0	28.17	30.85	19.26	847.1	0
10	28.18	30.893	4.80					10	28.19	30.90	19.28	844.9	.084
20	27.67	31.748	4.82					20	27.67	31.75	20.09	767.4	.165
30	27.42	32.202	4.90					30	27.42	32.21	20.51	727.4	.245
40	26.27	33.054	4.80					50	23.67	33.92	22.95	494.9	.362
50	23.67	33.917	3.94					75	17.74	34.79	25.20	241.7	.455
74	17.90	34.774	1.94					100	15.07	34.94	25.94	211.3	.521
99	15.13	34.941	1.18					150	13.91	34.95	26.19	184.3	.621
148	13.93	34.949	1.32					200	13.47	34.93	26.24	182.7	.713
199	13.50	34.927	0.47					250	12.75	34.88	26.38	172.9	.802
299	11.84	34.830	0.28					300	11.82	34.83	26.51	165.7	.884
400	9.63	34.715	0.15					400	9.63	34.72	26.82	132.9	1.032
600	7.15	34.610	0.30					500	8.15	34.65	27.00	115.0	1.157
801	5.81	34.576	1.00					600	7.16	34.62	27.12	105.4	1.267
994	4.69	34.578	1.24					700	6.40	34.59	27.20	94.1	1.344
1199	3.81	34.599	1.54					800	5.81	34.58	27.27	92.0	1.444
1401	3.39	34.614	1.62					1000	4.45	34.58	27.40	79.3	1.635
								1200	3.41	34.60	27.51	64.3	1.783

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D T S O₂ PO₄ pH ALK. NO₃ SiO₂ Z T S σ_t S ΔD
 (m) (°C) (‰) (ml/l) (μM) (meq/l) (μM) (μM) (m) (°C) (‰) (°) (dynal)

YPT 34 03 57.5 N 087 34.4 W DATE 20 JAN 69 10-4 ICT WIDE 04 DRY 83.0 WET 78.5 CRUISE YALOCAN
 WIND DIRECTION 13 VEL 11 KTS BAR 10 SWELL DIRECTION 15 - 02 T 06 CLOUD 8 AMT 2 WEATHER 02

0	27.92	30.594	4.80						0	27.92	30.40	19.15	455.0	0
10	27.92	30.402	4.80						10	27.92	30.41	19.15	457.7	.086
20	27.95	30.707	4.81						20	27.96	30.71	19.22	451.4	.171
30	27.76	31.453	4.80						30	27.76	31.46	19.84	742.2	.253
40	27.41	32.090	4.91						40	27.41	32.10	20.36	455.4	.378
50	27.21	34.134	1.57						50	27.21	34.14	20.48	257.2	.457
75	14.94	34.440	1.77						75	14.94	34.47	20.47	207.7	.525
100	14.46	34.940							100	14.94	34.96	20.47	207.7	.625
140	14.02	34.953	1.72						140	14.00	34.95	20.17	189.9	.717
199	13.27	34.927	0.89						199	13.29	34.93	20.11	174.1	.803
299	11.48	34.813	0.19						299	11.46	34.81	20.57	155.4	.883
300	8.01	34.648	0.24						300	8.01	34.65	20.83	132.1	1.027
400	7.70	34.613	0.45						400	7.70	34.62	27.02	113.4	1.150
603	4.82	34.576	0.89						600	4.82	34.58	27.12	105.1	1.259
1003	4.72	34.575	1.41						1000	4.72	34.58	27.10	99.0	1.342
1204	4.02		1.54						1200	4.02	34.59	27.24	92.1	1.458
1404	3.14	34.614	1.63						1400	3.14	34.59	27.40	87.2	1.630
1554	3.03	34.627	1.80						1500	3.13	34.62	27.60	80.4	1.782

YPT 34 03 29.6 N 084 04.0 W DATE 20 JAN 69 21-4 ICT WIDE 05 DRY 82.0 WET 75.6 CRUISE YALOCAN
 WIND DIRECTION 17 VEL 12 KTS BAR 04 SWELL DIRECTION 16 M 02 T CLOUD 8 AMT 4 WEATHER 02

0	28.05	30.899	4.78						0	28.05	30.90	19.33	440.0	0
1	28.05	30.899	4.78						10	28.05	30.90	19.33	440.0	.044
11	28.05	30.899	4.78						20	27.97	30.94	19.34	440.0	.168
21	27.96	30.477	4.79						30	27.79	31.84	20.11	765.7	.248
31	27.72	31.493	4.88						40	27.72	31.85	20.37	759.2	.381
41	25.43	31.521	4.52						50	20.27	34.55	24.37	252.0	.437
50	20.27	34.543	2.72						75	14.01	34.93	25.50	252.0	.497
76	16.78	34.942	2.04						100	15.71	34.94	25.70	225.1	.603
99	15.74	34.939	2.01						150	14.44	34.94	26.07	199.7	.699
149	14.46	34.940	2.05						200	12.47	34.92	26.24	182.4	.784
199	13.49	34.927	0.98						250	12.46	34.97	26.54	154.2	.867
299	7.11	34.814	0.54						300	11.92	34.92	26.94	137.1	1.013
399	5.85	34.577	0.99						400	9.47	34.73	26.94	117.6	1.139
497	5.01	34.573	1.26						500	8.13	34.66	27.11	104.8	1.250
1196	4.01	34.592	1.44						600	7.09	34.61	27.21	97.4	1.352
1495	3.16	34.621	1.82						700	6.36	34.59	27.26	92.3	1.444
1794	2.52	34.642	2.19						800	5.84	34.58	27.34	87.2	1.527
									1000	4.99	34.57	27.44	81.4	1.604
									1200	4.00	34.59	27.60	71.1	1.777
									1500	3.15	34.62	27.80	60.7	1.975

YPT 36 03 02.6 N 084 33.2 W DATE 30 JAN 69 0315 ICT WIDE 06 DRY 78.2 WET 75.5 CRUISE YALOCAN
 WIND DIRECTION 17 VEL 10 KTS BAR 04 SWELL DIRECTION 17 M 02 T 06 CLOUD 8 AMT 4 WEATHER 01

0	28.03	30.598	4.78						0	28.03	30.60	19.11	441.1	0
10	28.05	30.644	4.80						10	28.05	30.65	19.14	451.7	.044
20	27.94	31.954	4.73						20	27.94	30.66	19.41	433.2	.171
30	25.28	33.504	4.60						30	25.28	33.51	22.14	469.9	.241
40	21.46	34.822	1.01						40	21.46	34.83	24.77	321.5	.330
50	19.88	34.928	2.94						50	19.88	34.93	25.48	293.7	.402
78	17.09	35.029	2.04						75	17.31	35.03	25.48	213.1	.490
100	15.42	35.016	2.25						100	15.42	35.02	25.92	200.7	.543
149	14.67	34.980	2.19						150	14.44	34.99	26.04	200.7	.581
200	14.01	34.975	2.23						200	14.01	34.98	26.19	189.4	.641
301	9.14	34.984	0.64						250	12.87	34.98	26.43	168.3	.750
402	8.14	34.692	0.21						300	11.49	34.94	26.66	147.0	.824
603	4.71	34.572	1.31						400	9.19	34.70	26.84	127.2	.946
804	4.71	34.572	1.31						500	7.82	34.60	27.01	114.1	1.087
1004	4.81	34.575	1.35						600	6.79	34.60	27.14	101.4	1.145
1205	3.93	34.590	1.65						700	6.09	34.58	27.24	94.1	1.292
1504	2.93	34.627	1.91						800	5.72	34.57	27.28	91.0	1.385
									1000	4.83	34.57	27.38	81.4	1.557
									1200	3.85	34.59	27.44	74.8	1.644
									1500	2.95	34.63	27.62	66.1	1.903

YPT 37 02 34.0 N 080 01.1 W DATE 30 JAN 69 1038 ICT WIDE 00 DRY 77.0 WET 74.5 CRUISE YALOCAN
 WIND DIRECTION 14 VEL 12 KTS BAR 14 SWELL DIRECTION 15 M 02 T 05 CLOUD 6 AMT 4 WEATHER 02

0	27.82	30.414	4.80						0	27.82	30.42	19.04	447.9	0
10	27.84	30.426	4.73						10	27.84	30.43	19.04	447.9	.087
20	27.92	30.699	4.80						20	27.92	30.70	19.22	451.1	.173
30	25.84	33.213	4.73						30	25.84	33.22	21.77	407.1	.244
40	22.39	34.231	3.39						40	22.39	34.24	25.10	281.0	.334
50	18.02	34.864	2.71						50	18.02	34.87	25.67	235.9	.399
74	16.50	35.003	2.23						75	16.44	35.00	25.93	212.3	.455
99	15.27	34.977	1.84						100	15.23	34.98	26.17	190.4	.558
149	14.11	34.973	2.10						150	14.10	34.97	26.22	186.4	.640
199	13.83	34.967	1.91						200	13.82	34.97	26.34	174.7	.741
300	11.94	34.829	0.40						250	13.03	34.91	26.44	162.7	.824
401	9.30	34.644	0.19						300	11.94	34.83	26.44	149.4	.971
604	6.71	34.594	0.85						400	9.13	34.70	26.84	129.4	1.091
803	5.75	34.567	1.33						500	7.71	34.63	27.04	101.1	1.187
1002	4.70	34.571	1.37						600	6.76	34.59	27.14	95.6	1.295
1205	3.94	34.585	1.71						700	6.15	34.57	27.22	91.9	1.389
1505	3.10	34.613	1.91						800	5.76	34.57	27.38	80.2	1.501
1807	2.40	34.645	2.23						1000	4.71	34.57	27.44	71.2	1.713
									1200	3.96	34.58	27.59	62.1	1.911
									1500	3.11	34.61	27.74	50.1	2.111

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D	T	S	O ₂	PO ₄	pH	AlP.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
YPT 38 02 05.0 N 090 29.3 W DATE 30 JAN 69 1715 GCT WIRE 00 DRY 80.0 WET 74.6 CRUISE YALOCAR														
WIND DIRECTION 16 VEL 14 KTS BAR 09 SWELL DIRECTION 18 H 02 T 04 CLOUD 6 AMT 8 WEATHER 02														
0	27.15	31.137	4.77	8.281	2.141				0	27.15	31.14	19.80	795.2	0
10	27.15	31.136	4.77	8.280	2.141				10	27.15	31.14	19.80	795.6	.080
20	27.27	31.315	4.78	8.279	2.144				20	27.27	31.34	19.91	785.3	.159
30	26.54	32.617	4.83	8.246	2.244				30	26.54	32.62	21.10	671.1	.231
40	24.67	33.857	4.79	8.179	2.274				40	24.67	34.59	24.92	106.8	.329
49	18.59	34.51	3.12	7.992	2.109				50	18.25	34.59	25.87	216.4	.345
75	15.75	35.058	2.59	7.944	2.392				75	15.75	35.06	25.93	212.1	.444
97	15.44	34.919	2.57	7.924	2.389				100	15.36	35.02	26.17	197.3	.544
147	14.18	34.990	2.11	7.861	2.408				150	14.15	34.99	26.22	180.3	.643
197	13.89	34.972	1.84	7.842	2.419				200	13.87	34.97	26.24	180.9	.735
298	12.54	34.877	0.88	7.887	2.379				250	13.33	34.93	26.42	169.9	.823
399	9.76	34.735	0.22	7.568	2.409				300	12.49	34.87	26.81	133.4	.974
600	6.91	34.601	0.79	7.554	2.410				400	9.74	34.73	27.02	113.3	1.098
800	5.87	34.570	1.29	7.574	2.417				500	7.99	34.65	27.15	102.8	1.206
999	4.45	34.578	1.51	7.581	2.450				600	6.92	34.61	27.21	97.5	1.306
1124	4.23	34.583	1.57	7.592	2.434				700	6.30	34.58	27.26	92.9	1.401
1200	3.90	34.589	1.73	7.591					800	5.48	34.58	27.43	76.4	1.570
1422	3.27	34.611	1.82	7.598	2.459				1000	4.45	34.58	27.50	69.9	1.716
1500	3.13	34.616	1.91	7.614	2.477				1200	3.91	34.59	27.50	69.9	1.716
1674	2.75	34.633	2.09	7.617	2.477				1500	3.14	34.62	27.60	60.8	1.912
1924	2.37	34.650	2.21	7.641	2.480				2000	2.30	34.65	27.70	51.1	2.192
2173	2.17	34.662	2.38	7.649	2.500									
2222	2.13	34.664	2.32	7.649	2.500									
2247	2.13	34.444	2.34	7.656	2.505									
2257				7.646										
2271				7.661										
2266				7.631										
2272				7.656										

YPT 39 01 28.4 N 090 08.8 W DATE 30 JAN 69 1715 GCT WIRE 00 DRY 76.8 WET 73.7 CRUISE YALOCAR														
WIND DIRECTION 16 VEL 13 KTS BAR 09 SWELL DIRECTION 17 H 02 T 05 CLOUD 8 AMT 3 WEATHER 02														
0	25.81	33.791	4.87	8.245	2.302				0	25.81	33.80	22.21	563.8	0
10	25.60	33.831	4.90						10	25.60	33.84	22.31	555.0	.054
20	25.34	33.886	4.91						20	25.34	33.89	22.43	543.8	.111
30	24.05	34.031	4.88						30	24.05	34.04	22.92	496.7	.163
40	19.15	35.049	3.42						40	19.15	35.07	25.55	246.7	.237
49	17.31	35.073	2.97						50	17.18	35.07	25.90	214.0	.245
75	15.61	35.050	2.75						75	15.61	35.05	25.96	210.4	.348
99	15.43	35.054	2.58						100	15.41	35.05	26.16	191.4	.444
147	14.22	34.984	2.10						150	14.18	34.98	26.24	185.3	.542
198	13.74	34.957	1.73						200	13.71	34.96	26.35	175.3	.632
299	12.07	34.859	0.37						250	12.98	34.91	26.49	162.8	.717
400	9.73	34.728	0.28						300	12.05	34.86	26.81	133.6	.865
600	7.11	34.605	0.66						400	9.73	34.73	27.00	116.0	.990
801	5.84	34.570	1.19						500	8.17	34.65	27.12	105.4	1.101
1001	4.59	34.574	1.60						600	7.11	34.61	27.20	98.5	1.202
1203	4.00	34.584	1.71						700	6.39	34.58	27.26	92.9	1.298
1503	3.08	34.612	2.00						800	5.84	34.57	27.41	78.5	1.469
1703	2.59	34.636	2.19						1000	4.60	34.57	27.48	71.9	1.620
									1200	4.01	34.58	27.59	60.9	1.819
									1500	3.09	34.61			

YPT 40 00 47.0 N 090 09.7 W DATE 31 JAN 69 1125 GCT WIRE 01 DRY 75.5 WET 72.8 CRUISE YALOCAR														
WIND DIRECTION 17 VEL 12 KTS BAR 08 SWELL DIRECTION 17 H 03 T 05 CLOUD 8 AMT 7 WEATHER 02														
0	24.41	34.252	4.82	8.192	2.338				0	24.42	34.26	22.98	489.9	0
10	24.31	34.259	4.80						10	24.31	34.26	23.02	487.0	.049
20	23.36	34.303	4.52						20	23.36	34.31	23.33	457.4	.096
30	18.99	34.953	3.29						30	19.00	34.46	25.01	297.1	.134
40	17.42	35.092	2.77						40	17.40	35.10	25.71	231.8	.147
49	16.66	35.100	2.66						50	16.40	35.08	25.91	213.4	.242
75	15.67	35.076	2.53						75	15.67	35.08	25.98	207.4	.295
98	15.32	35.059	2.53						100	15.28	35.06	26.14	191.7	.394
147	14.25	34.991	2.08						150	14.20	34.99	26.28	180.7	.487
198	13.48	34.948	1.22						200	13.45	34.95	26.39	171.4	.575
299	12.02	34.864	0.37						250	12.76	34.91	26.51	161.4	.649
399	10.02	34.753	0.24						300	12.00	34.86	26.78	136.7	.808
600	7.17	34.613	0.81						400	10.00	34.75	26.98	117.4	.935
801	5.92	34.577	1.20						500	8.39	34.67	27.12	105.7	1.047
1001	4.75	34.576	1.45						600	7.18	34.62	27.19	98.7	1.149
1202	3.93	34.595	1.73						700	6.44	34.59	27.25	93.4	1.245
1502	3.02	34.614	2.04						800	5.92	34.58	27.30	80.4	1.419
1801	2.40	34.649	2.23						1000	4.76	34.58	27.30	70.2	1.569
2002	2.28	34.658							1200	3.94	34.59	27.40	54.7	1.764
									1500	3.02	34.62	27.70	50.4	2.039
									2000	2.28	34.66			

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm ²)
YPT 46 00 42.8 S 090 39.8 W DATE 02 FEB 69 0912 ACT WIRE DRY 74.9 WET 73.6 CRUISE YALC049														
WIND DIRECTION 16 VEL 04 KTS BAR 06 SWELL DIRECTION M T CLOUD 3 AMT A WEATHER 02														
0	24.34	34.409	4.77						0	24.34	34.41	23.12	476.4	
10	23.41	34.525	4.62						10	23.42	34.53	23.48	442.4	.046
20	19.76	34.889	1.53						20	19.75	34.49	24.77	320.3	.046
30	19.20	34.956	3.25						30	19.21	34.46	24.96	302.0	.115
40	16.79	34.627	2.60						50	15.87	35.12	25.81	221.7	.144
49	15.91	35.015	2.37						75	15.70	35.03	25.84	217.7	.227
75	15.70	35.025	2.34						100	15.57	35.03	25.89	215.5	.277
99	15.58	35.030	2.34						150	14.82	35.01	26.04	202.6	.381
148	14.84	35.010	2.19						200	14.65	35.00	26.07	201.2	.482
198	14.65	35.001	2.14											
YPT 47 00 44.2 S 090 44.7 W DATE 02 FEB 69 1042 ACT WIRE 04 DRY 75.0 WET 73.5 CRUISE YALC069														
WIND DIRECTION 17 VEL 04 KTS BAR 16 SWELL DIRECTION M 00 T CLOUD 8 AMT 1 WEATHER 02														
0	24.23	34.424	4.75	8.162	2.341				0	24.23	34.43	23.17	472.4	
10	22.95	34.540	4.40						10	22.95	34.58	23.66	425.8	.045
20	19.60	34.909	3.40						20	19.60	34.91	24.82	314.9	.042
30	14.97	34.929	3.16						30	18.93	34.93	25.00	295.4	.115
40	16.88	34.934	2.65											
49	16.49	34.991	2.42											
YPT 48 00 31.0 S 090 44.1 W DATE 02 FEB 69 1318 ACT WIRE 01 DRY 75.5 WET 74.0 CRUISE YALC049														
WIND DIRECTION 18 VEL 10 KTS BAR 05 SWELL DIRECTION 18 M 01 T 08 CLOUD 3 AMT 2 WEATHER 02														
0	23.74	34.498	4.68	8.161	2.351				0	23.75	34.49	23.36	453.9	
10	23.21	34.545	4.62						10	23.21	34.55	23.56	435.4	.044
15	20.72	34.910	1.45						20	20.15	34.48	24.66	337.7	.043
20	20.14	34.878	1.54						30	19.45	34.92	24.84	313.4	.115
30	19.55	34.918	1.40						50	16.29	35.01	25.71	231.1	.164
40	17.89	34.953	2.89						75	15.87	35.03	25.84	221.1	.227
49	14.36	35.009	2.47						100	15.07	35.02	26.00	205.6	.277
75	15.40	35.022	2.40						150	14.45	35.00	26.11	195.9	.377
99	15.09	35.023	2.29						200	13.85	34.97	26.22	167.0	.475
148	14.48	34.998	2.12						250	13.20	34.93	26.33	177.4	.564
199	13.67	34.971	1.88						300	12.14	34.89	26.50	161.8	.661
300		34.890	1.17						400	9.95	34.77	26.80	134.4	.742
401		34.770	0.53						500	8.74	34.70	27.01	115.1	.924
501		34.696	0.74											
YPT 49 00 24.0 S 090 55.4 W DATE 02 FEB 69 1533 ACT WIRE 00 DRY 76.8 WET 74.2 CRUISE YALC049														
WIND DIRECTION 16 VEL 07 KTS BAR 20 SWELL DIRECTION 15 M 02 T 06 CLOUD 6 AMT 8 WEATHER 03														
0	24.49	34.488	5.44	8.223	2.336				0	24.50	34.49	23.14	475.2	
10	23.97	34.489	5.05						10	23.98	34.49	23.29	467.7	.047
20	22.70	34.612	4.52						20	22.71	34.62	23.75	417.0	.091
30	21.85	34.716	4.22						30	21.85	34.72	24.07	387.0	.131
40	20.64	34.802	3.74						50	18.20	34.91	25.18	282.0	.195
49	18.38	34.905	2.99						75	15.69	35.01	25.85	215.4	.267
75	15.69	35.010	2.30											
99	15.28	35.018	2.27											
YPT 50 00 21.9 S 090 52.8 W DATE 02 FEB 69 1802 ACT WIRE 05 DRY 79.8 WET 75.4 CRUISE YALC049														
WIND DIRECTION 14 VEL 05 KTS BAR 10 SWELL DIRECTION 17 M 01 T 06 CLOUD 8 AMT 7 WEATHER 02														
0	24.49	34.420	4.80	8.184	2.341				0	24.50	34.42	23.09	480.1	
10	24.07	34.440	4.91						10	24.07	34.45	23.23	467.0	.047
13	23.83	34.769	4.98						20	23.44	34.52	23.47	444.1	.093
20	23.43	34.514	4.80						30	20.97	34.75	24.34	355.5	.123
30	20.89	34.749	4.01						50	18.45	34.90	25.06	293.3	.164
40	19.83	34.868	3.58						75	15.49	35.04	25.87	215.4	.267
49	18.79	34.897	3.21						100	15.12	35.02	25.99	205.4	.315
75	15.68	35.034	2.38						150	14.51	35.00	26.10	195.7	.415
99	15.14	35.025	2.30						200	13.78	34.97	26.23	184.5	.511
149	14.52	35.001	2.19						250	12.99	34.94	26.37	173.3	.601
189	13.95	34.976	1.91						300	12.12	34.90	26.51	161.1	.685
290		34.911	1.17						400	10.18	34.76	26.76	139.3	.835
394	10.29	34.767	0.60											
YPT 51 00 20.2 S 090 51.0 W DATE 02 FEB 69 2007 ACT WIRE DRY 76.8 WET 74.8 CRUISE YALC049														
WIND DIRECTION 11 VEL 07 KTS BAR 07 SWELL DIRECTION M T CLOUD 8 AMT 7 WEATHER 02														
0	24.12	34.443	4.82	8.170	2.324				0	24.13	34.45	23.21	487.9	
10	23.97	34.453	4.80						10	23.98	34.46	23.26	481.3	.047
20	23.54	34.502	4.71						20	23.54	34.51	23.47	444.1	.093
30	19.98	34.880	1.61						30	19.98	34.77	24.69	324.3	.131
40	19.53	34.896	1.45						50	18.88	34.92	25.02	297.5	.164
49	19.00	34.917	1.26						75	15.89	35.02	25.81	222.5	.267
74	15.95	35.021	2.44						100	15.15	35.02	25.94	207.2	.315
98	15.18	35.020	2.74						150	14.52	35.00	26.10	197.1	.415
146	14.59	35.002	2.20						200	13.44	34.95	26.26	182.8	.511
197	13.63	34.954	1.75						250	12.82	34.92	26.39	171.3	.607
298	12.06	34.867	0.91						300	12.72	34.86	26.50	162.0	.685
398	9.93	34.547	0.42						400	9.49	34.54	26.64	150.3	.835

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/m)

YPT 52 00 06.7 S 091 03.1 W DATE 02 FEB 69 2219 GCT WIRE DRY 75.1 WET 73.1 CRUISE YALCCAG
WIND DIRECTION 13 VEL 14 KTS BAR 10 SWELL DIRECTION 18 H 02 T 06 CLCUD 6 AMT 8 WEATHER 02

0	24.19	34.48	23.22	467.4	0
10	23.96	34.52	23.32	458.7	.046
20	23.51	34.41	23.52	439.5	.091
30	21.88	34.72	24.07	387.8	.133
40	18.69	34.97	25.10	289.1	.200
50	15.78	35.08	25.88	215.7	.263
60	15.10	35.03	25.89	205.7	.316
70	14.04	34.98	26.19	188.4	.414
80	13.32	34.94	26.31	178.1	.506
90	12.45	34.89	26.44	166.5	.592
100	11.49	34.84	26.58	153.2	.672
110	9.40	34.73	26.86	128.7	.814
120	7.89	34.65	27.04	112.1	.934
130	6.82	34.60	27.18	101.4	1.041
140	6.04	34.58	27.24	93.2	1.139
150	5.52	34.58	27.31	87.2	1.230
160	4.82	34.57	27.38	81.7	1.319
170	3.72	34.60	27.52	67.3	1.548
180	3.10	34.62	27.60	60.4	1.740
190	2.14	34.65	27.71	49.1	2.014

YPT 53 00 13.2 N 091 27.8 W DATE 03 FEB 69 0515 GCT WIRE 05 DRY 76.2 WET 74.8 CRUISE YALCCAG
WIND DIRECTION 21 VEL 08 KTS BAR 08 SWELL DIRECTION 34 H 02 T 06 CLCUD 6 AMT 8 WEATHER 03

0	24.43	34.563	5.68	8.248	2.348
10	22.78	34.713	4.62		
20	21.41	34.929	4.06		
30	19.49	34.973	3.40		
40	17.03	35.030	2.89		
50	15.91	35.019	2.51		
60	15.42	35.062	2.61		
70	15.06	35.062	2.70		
80	14.97	35.061	2.66		
90	14.60	35.029	2.44		
100	11.81	34.854	0.60		
110	4.59	34.673	0.41		
120	6.95	34.598	0.98		
130	5.48	34.568	1.45		
140		34.565	1.73		
150	3.60	34.594	2.02		
160	3.00	34.620	2.10		
170	2.19	34.651	2.58		

YPT 54 00 09.4 S 091 33.4 W DATE 03 FEB 69 0932 GCT WIRE 00 DRY 74.8 WET 73.2 CRUISE YALCCAG
WIND DIRECTION VEL 08 KTS BAR 08 SWELL DIRECTION H 00 T CLCUD 6 AMT 8 WEATHER 02

0	23.58	34.901	5.74	8.200	2.387
10	21.68	34.984	4.59		
20	21.49	34.996	4.43		
30	20.68	35.089	4.06		
40		35.183	3.22		
50	17.18	35.139	2.85		
60	16.06	35.083	2.85		
70	16.01	35.126	2.93		
80	15.41	35.095	2.87		
90	13.22	34.945	1.54		
100	12.18	34.874	0.85		
110	9.51	34.718	0.37		
120	6.78	34.588	1.12		
130	5.50	34.565	1.50		
140	4.85	34.561	1.73		
150	3.75	34.583	1.91		
160	3.06	34.610	2.10		
170	2.24	34.646	2.55		

YPT 55 01 07.4 S 089 03.0 W DATE 05 FEB 69 0851 GCT WIRE 05 DRY 76.8 WET 75.0 CRUISE YALCCAG
WIND DIRECTION 14 VEL 08 KTS BAR 10 SWELL DIRECTION 19 H 02 T 12 CLCUD 3 AMT 2 WEATHER 02

0	25.34	34.707	5.09	8.181	2.383
10	24.97	34.799	4.94		
20	24.14	34.904	4.74		
30	23.48	34.923	4.54		
40	22.14	34.949	4.15		
50	18.91	35.014	3.14		
60	18.02	35.167	2.45		
70	15.95	35.092	2.38		
80	14.43	35.011	1.94		
90	13.84	34.978	1.63		
100	13.37	34.910	1.26		

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^6$)	(dyn/m)
YPT 56 01 08.9 S 088 23.1 W DATE 05 FEB 69 1511 GCT WIRE DRY 79.1 WET 77.1 CRUISE YALOCAR														
WIND DIRECTION 16 VEL 10 KTS BAR 12 SWELL DIRECTION 18 H 02 T 05 CLOUD 8 AMT 1 WEATHER 02														
0	24.61	34.490	4.96	8.184	2.354				0	24.61	34.50	23.10	478.5	0
10	24.51	34.499	4.91						10	24.51	34.50	23.14	475.7	.064
20	23.96	34.692	4.80						20	23.96	34.70	23.44	446.1	.094
30	23.85	34.913	4.80						30	23.85	34.92	23.64	427.4	.117
40	22.58	35.001	4.21						50	20.19	35.09	24.41	317.4	.212
44	16.46	35.181	2.47						75	16.17	35.16	25.24	218.7	.279
89	15.88	35.108	2.49						100	15.53	35.08	25.94	210.7	.332
137	14.49	35.026	2.20						150	14.54	35.01	26.11	194.4	.414
187	14.16	34.987							200	13.89	34.97	26.21	187.4	.530
287	11.61	34.9							250	12.67	34.91	26.41	164.7	.619
387	9.03	34.695							300	11.25	34.83	26.62	150.7	.699
586	6.66	34.591	1.07						400	8.80	34.68	26.92	122.7	.835
765	5.36	34.578	1.34						500	7.40	34.61	27.08	107.7	.940
874		34.575	1.48						600	6.53	34.59	27.14	98.7	1.053
									700	5.74	34.58	27.24	89.4	1.147
									800	5.60	34.58	27.29	89.7	1.236

YPT 57 01 07.0 S 087 43.0 W DATE 05 FEB 69 2355 GCT WIRE 04 DRY 79.8 WET 75.5 CRUISE YALOCAR
WIND DIRECTION 18 VEL 08 KTS BAR 08 SWELL DIRECTION 18 H 02 T 06 CLOUD 8 AMT 3 WEATHER 02

0	26.84	32.388	4.80	8.271	2.212				0	26.84	32.39	20.83	495.2	0
10	24.82	33.814	4.91						10	24.82	33.82	22.51	533.4	.061
20	23.40	34.694	4.67						20	23.40	34.70	23.61	430.3	.110
30	22.62	34.903	4.43						30	22.63	34.91	24.00	394.7	.151
40	19.12	35.135	2.87						50	17.53	35.22	25.58	243.7	.215
49	17.63	35.227	2.19						75	16.15	35.16	25.84	219.2	.272
74	16.19	35.160	2.38						100	15.36	35.09	25.98	206.4	.325
98	15.40	35.089	2.38						150	14.53	35.04	26.13	194.7	.426
197	14.00	34.978	1.61						200	13.94	34.96	26.19	189.4	.522
297	11.78	34.354	0.20						250	12.49	34.62	26.14	195.7	.618
396	9.31	34.709	0.30						300	11.70	34.36	26.17	192.7	.715
595	6.76	34.598	0.49						400	9.23	34.71	26.38	127.7	.875
794	5.84	34.574	1.26						500	7.67	34.65	27.07	108.4	.993
992	4.63	34.572	1.61						600	6.73	34.60	27.14	100.3	1.097
1191	3.87	34.584	1.75						700	6.19	34.58	27.22	95.4	1.195
									800	5.80	34.57	27.27	92.7	1.289
									1000	4.59	34.57	27.41	78.7	1.460
									1200	3.84	34.58	27.50	69.7	1.608

YPT 58 01 07.0 S 087 02.6 W DATE 06 FEB 69 0648 GCT WIRE 05 DRY 79.5 WET 76.0 CRUISE YALOCAR
WIND DIRECTION 16 VEL 10 KTS BAR 10 SWELL DIRECTION 18 H 02 T 08 CLOUD 6 AMT 6 WEATHER 02

0	26.95	32.411	4.89	8.274	2.212				0	26.96	32.42	20.92	497.3	0
10	26.89	32.445	4.88						10	26.90	32.45	20.86	493.4	.070
20	24.17	33.926	4.74						20	24.17	33.93	22.41	507.7	.130
30	22.97	34.720	4.52						30	22.98	34.72	23.74	416.4	.176
34	19.75	35.054	3.33						50	17.94	34.97	25.24	271.3	.245
49	18.02	34.968	4.09						75	16.32	34.98	25.44	234.7	.308
147	14.80	35.023	2.22						100	15.27	35.00	25.77	211.5	.364
198	14.28	34.999	1.80						150	14.76	35.02	25.04	200.4	.447
298	12.57	34.897	0.30						200	14.26	35.00	25.15	193.7	.545
398	9.33	34.708	0.26						250	13.54	34.94	26.27	183.7	.659
598	6.94	34.602	0.79						300	12.51	34.99	26.43	164.3	.747
798	5.71	34.570	1.26						400	9.29	34.71	26.47	128.7	.896
997	4.68	34.572	1.50						500	7.70	34.63	27.05	110.4	1.015
1197	3.71	34.597	1.73						600	6.92	34.60	27.14	103.7	1.122
1497	3.19	34.613	1.91						700	6.23	34.58	27.22	96.7	1.222
1597	2.89	34.623	2.01						800	5.70	34.57	27.28	90.3	1.315
									1000	4.66	34.57	27.40	74.4	1.485
									1200	3.70	34.60	27.52	67.7	1.632
									1500	3.18	34.61	27.59	61.3	1.825

YPT 59 01 07.8 S 084 24.0 W DATE 06 FEB 69 1825 GCT WIRE 02 DRY 81.0 WET 77.0 CRUISE YALOCAR
WIND DIRECTION 17 VEL 10 KTS BAR 12 SWELL DIRECTION 18 H 02 T 05 CLOUD 8 AMT 3 WEATHER 02

0	27.01	32.774	4.79	8.247	2.230				0	27.01	32.78	21.07	472.4	0
10	25.82	33.229	4.80						10	25.82	33.23	21.78	404.4	.064
20	22.79	34.528	4.43						20	22.79	34.53	23.46	425.5	.115
30	21.32	34.994	3.91						30	21.32	35.00	24.43	352.7	.154
40	19.14	35.163	2.85						50	16.72	35.14	25.71	231.7	.213
49	16.85	35.146	2.64						75	15.51	35.10	25.94	208.4	.268
75	15.51	35.097	2.29						100	14.45	35.02	26.04	200.3	.319
98	14.89	35.024	2.70						150	14.75	34.94	26.17	194.2	.418
147	14.34	34.990	1.84						200	14.14	34.99	26.17	191.3	.514
198	14.15	34.9	1.84						250	13.58	34.96	26.24	183.3	.608
298	12.69	34.905	0.38						300	12.63	34.90	26.41	170.7	.694
398	9.60	34.729	0.19						400	9.44	34.73	26.44	131.7	.847
599		34.643	0.51						500	7.84	34.64	27.04	110.7	.944
799	5.46	34.565	1.28						600	6.62	34.64	27.22	95.7	1.071
998	4.62	34.572	1.54						700	5.89	34.60	27.28	90.1	1.164
1198	3.81	34.584	1.75						800	5.45	34.57	27.28	80.4	1.254
1498	3.01	34.614	2.01						1000	4.61	34.57	27.41	74.7	1.424
1498	2.34	34.644	2.29						1200	3.80	34.59	27.51	64.7	1.571
									1500	3.01	34.61	27.50	54.7	1.764

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D	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/m)
YPT 60 01 07.5 S 084 56.1 W DATE 07 FEB 69 0005 GCT WIRE 02 DRY WET CRUISE YALCCAG														
WIND DIRECTION 17 VEL 10 KTS BAR 09 SWELL DIRECTION 18 H 04 T 06 CLOUD 8 AMT 4 WEATHER 02														
0	26.49	32.960	4.90			8.265	2.251		0	26.69	32.96	21.31	449.9	0
10	26.19	33.092	4.85						10	26.19	33.10	21.57	425.7	.064
20	22.37	34.529	4.34						20	22.38	34.53	23.78	414.0	.116
30	22.02	34.863	4.31						30	22.02	34.87	24.14	400.9	.156
40	19.49	34.10	2.98						50	18.14	34.28	24.71	326.5	.226
49	18.25	34.242	2.65						75	16.15	35.15	25.88	214.5	.294
75	16.15	35.149	2.29						100	14.98	35.03	26.03	202.7	.347
99	15.00	35.035	2.29						150	14.48	35.00	26.11	196.4	.447
147	14.50	34.999	1.86						200	14.16	34.98	26.17	192.1	.544
198	14.18	34.946	1.84						250	13.42	34.95	26.24	181.3	.637
298	12.32	34.887	0.19						300	12.25	34.88	26.32	164.8	.724
398	8.85	34.687	0.30						400	8.82	34.69	26.92	122.2	.867
598	7.28	34.612	0.78						500	7.82	34.62	27.04	109.6	.983
798	5.49	34.567	1.47						600	7.26	34.61	27.17	107.4	1.092
995	4.74	34.573	1.50						700	6.32	34.58	27.27	97.1	1.194
1197	3.88	34.588	1.75						800	5.48	34.57	27.37	89.2	1.286
1497	3.00	34.618	2.10						1000	4.72	34.57	27.47	80.1	1.455
1994	2.34	34.650	2.43						1200	3.87	34.59	27.57	69.0	1.605
									1500	2.99	34.42	27.67	59.2	1.798
									2000	2.33	34.65	27.63	51.4	2.075

YPT 61 01 09.0 S 084 20.9 W DATE 07 FEB 69 0628 GCT WIRE 05 DRY 78.0 WET 76.0 CRUISE YALCCAG														
WIND DIRECTION 15 VEL 10 KTS BAR 12 SWELL DIRECTION 18 H 03 T 06 CLOUD 3 AMT 5 WEATHER 02														
0	26.37	32.935	4.99			8.243	2.237		0	26.38	32.94	21.33	442.1	0
10	26.06	33.041	4.90			8.257	2.284		10	26.06	33.05	21.57	425.4	.063
20	21.98	34.590	4.10			8.093			20	21.98	34.59	23.94	399.2	.115
30	22.02	34.786	4.11			8.083	2.394		30	22.02	34.79	24.03	386.3	.154
40	19.43	35.114	2.99			7.996	2.382		50	18.13	35.21	25.43	258.3	.218
49	18.25	35.214	2.57			7.921	2.387		75	15.76	35.22	25.94	205.1	.276
75	15.76	35.216	2.47			7.919	2.394		100	14.96	35.03	26.03	202.3	.327
98	14.99	35.039	2.15			7.876	2.385		150	14.55	35.02	26.11	196.2	.427
147	14.58	35.021	1.91			7.830	2.417		200	14.03	34.94	26.27	189.2	.523
197	14.04	34.988	1.47			7.774	2.377		250	13.60	34.96	26.27	183.7	.616
298	12.85	34.923	0.43			7.663	2.377		300	12.79	34.92	26.47	172.4	.705
398	8.96	34.697	0.32			7.525	2.405		400	8.92	34.69	26.92	123.3	.853
598	7.36	34.622	0.78			7.556	2.443		500	7.66	34.63	27.04	110.1	.970
798	5.28	34.572	1.47			7.539	2.454		600	7.34	34.62	27.17	107.4	1.078
997	4.73	34.578	1.48			7.566	2.467		700	6.23	34.59	27.27	95.2	1.180
1147	4.07	34.590	1.63			7.581			800	5.27	34.57	27.37	85.1	1.270
1197	3.92	34.593	1.73			7.569	2.462		1000	4.72	34.59	27.40	79.7	1.435
1445	3.20	34.618	1.91			7.603			1200	3.91	34.59	27.57	70.2	1.545
1499	3.00	34.625	2.01			7.598			1500	3.00	34.63	27.61	58.4	1.778
1694	2.69	34.638	2.10			7.615			2000	2.28	34.66	27.70	50.5	2.051
1941	2.37	34.655	2.29			2.95	7.636	144						
2190	2.07	34.667	2.58			2.77	7.656	147						
2240	2.05	34.668	2.62			2.73	7.655	148						
2265	2.01	34.670	2.64			2.76	7.658	149						
2283		34.672				2.93	7.666	14						
2285		34.674				2.7	7.651	149						
229		34.674				2.72	7.666	148						

YPT 62 01 06.6 S 084 41.0 W DATE 07 FEB 69 1744 GCT WIRE 09 DRY 82.1 WET 76.0 CRUISE YALCCAG
WIND DIRECTION 17 VEL 14 KTS BAR 12 SWELL DIRECTION 18 H 03 T 06 CLOUD 3 AMT 5 WEATHER 02

0	26.30	33.715	4.86			8.241	2.230		0	26.30	33.72	22.20	483.4	0
10	22.44	34.311	4.36						10	22.44	34.32	23.59	432.4	.051
20	21.96	34.859	4.22						20	21.96	34.86	24.15	379.2	.091
30	20.02	35.148	3.05						30	20.02	35.15	24.90	308.4	.126
40	18.28	35.219	2.40						50	16.44	35.15	25.78	224.4	.179
49	16.52	35.153	2.38						75	15.99	35.11	25.44	218.1	.234
75	15.99	35.106	2.40						100	15.09	35.04	26.00	204.8	.287
99	15.10	35.037	2.21						150	14.64	35.01	26.08	194.1	.344
147	14.70	35.014	2.01						200	13.92	34.99	26.21	187.7	.445
198	13.96	34.941	1.45						250	12.93	34.93	26.37	173.4	.575
299	11.76	34.857	0.13						300	11.73	34.86	26.55	157.1	.658
398	8.94	34.687	0.40						400	8.91	34.89	26.91	127.7	.794
599	7.34	34.616	0.79						500	7.87	34.83	27.04	112.2	.914
800	5.42	34.575	1.35						600	7.13	34.82	27.10	105.1	1.026
1000	4.67	34.578	1.49						700	6.32	34.59	27.21	95.7	1.128
1200	3.75	34.596	1.80						800	5.43	34.58	27.32	84.5	1.220
1501	3.02	34.621	2.01						1000	4.64	34.58	27.41	75.9	1.345
1800	2.47	34.644	2.19						1200	3.76	34.60	27.52	67.5	1.532
									1500	3.02	34.62	27.61	54.4	1.722

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U	T	S	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
YPT 63 01 01.0 S 083 58.8 W DATE 08 FEB 69 0210 ICT WIRE 00 DRY 77.8 WET 75.7 CRUISE YALCOA9														
WIND DIRECTION 14 VEL 04 KTS BAR 12 SWELL DIRECTION 18 H 02 T 06 CLOUD 6 AMT 0 WEATHER 02														
0	25.23	33.370	4.78			8.228	2.281		0	25.23	33.38	22.07	577.1	0
10	22.38	34.604	4.31						10	22.38	34.61	23.84	408.4	.049
20	21.25	34.999	3.78						20	21.25	35.00	24.45	350.4	.047
30	19.97	35.175	2.94						30	19.98	35.18	24.97	305.1	.120
40	17.09	35.143	2.57						50	16.46	35.11	25.74	227.4	.173
49	16.50	35.110	2.29						75	15.84	35.09	25.88	216.2	.229
75	15.84	35.088	2.18						100	15.14	35.03	25.99	206.4	.282
98	15.17	35.070	2.18						150	14.77	35.03	26.07	203.2	.343
147	14.80	35.05	1.93						200	14.06	34.99	26.19	190.0	.441
198	14.11	34.989	1.61						250	12.82	34.91	26.38	172.2	.571
298	11.50	34.833	0.19						300	11.46	34.83	26.58	153.6	.653
398	9.54	34.724	0.28						400	9.51	34.72	26.84	130.4	.795
598	7.19		0.79						500	8.17	34.67	27.01	114.6	.918
798	5.53	34.610	1.35						600	7.17	34.63	27.17	104.4	1.027
997	4.54	34.570	1.54						700	6.26	34.61	27.27	94.3	1.126
1197	3.65	34.578	1.74						800	5.52	34.61	27.33	85.4	1.216
1498	3.06	34.599	1.99						1000	4.52	34.57	27.41	77.9	1.340
									1200	3.64	34.58	27.51	67.8	1.525
									1500	3.06	34.60	27.59	61.4	1.719

YPT 64 01 06.0 S 083 18.7 W DATE 08 FEB 69 1029 ICT WIRE 06 DRY 76.5 WET 74.0 CRUISE YALCOA9														
WIND DIRECTION 11 VEL 05 KTS BAR 10 SWELL DIRECTION 18 H 01 T 06 CLOUD 6 AMT 6 WEATHER 02														
0	25.09	33.804	5.00			8.225	2.326		0	25.09	33.81	22.44	541.7	0
10	22.33	34.430	4.41						10	22.33	34.43	23.72	417.4	.048
20	22.31	34.640	4.34						20	22.31	34.44	23.89	370.4	.049
30	19.29	35.127	2.96						30	19.29	35.13	25.07	291.4	.124
40	14.16	35.106	2.79						50	16.83	35.11	25.67	235.4	.177
49	16.91	35.115	2.57						75	15.83	35.08	25.87	216.7	.233
75	15.83	35.078	2.19						100	15.38	35.03	25.94	211.3	.287
99	15.39	35.033	2.19						150	15.01	35.03	26.02	204.4	.391
147	15.04	35.035	2.01						200	14.28	34.99	26.14	194.4	.491
198	14.33	34.990	1.45						250	12.98	34.92	26.36	175.0	.583
298	11.58	34.842	0.19						300	11.53	34.84	26.58	154.6	.665
398	9.31	34.710	0.30						400	9.28	34.71	26.87	127.9	.806
599	7.05	34.603	0.73						500	7.92	34.64	27.03	113.1	.927
800	5.59	34.572	1.26						600	7.04	34.60	27.13	104.9	1.036
999	4.39	34.580	1.52						700	6.25	34.58	27.22	96.5	1.137
1199	3.76	34.595	1.73						800	5.59	34.58	27.30	89.0	1.229
1348	3.39	34.610	1.85						1000	4.39	34.58	27.44	75.4	1.394
									1200	3.76	34.60	27.52	63.0	1.537

YPT 65 01 07.0 S 082 40.0 W DATE 08 FEB 69 1728 ICT WIRE 07 DRY 81.0 WET 75.0 CRUISE YALCOA9														
WIND DIRECTION 12 VEL 08 KTS BAR 12 SWELL DIRECTION 18 H 03 T 05 CLOUD 6 AMT 6 WEATHER 02														
0	25.29	34.047	4.97						0	25.29	34.05	22.56	530.0	0
10	24.30	34.131	4.86						10	24.30	34.19	22.94	492.2	.051
20	20.03	35.032	3.38						20	20.03	35.04	24.80	315.7	.092
30	19.24	35.086	2.94						30	19.25	35.09	25.05	293.5	.122
40	17.78	35.132	2.57						50	16.97	35.13	25.64	238.0	.175
49	17.03	35.129	2.38						75	16.04	35.03	25.78	225.2	.233
75	16.04	35.024	2.11						100	15.92	35.03	25.81	223.2	.289
99	15.93	35.028	2.29						150	15.05	35.01	25.94	207.4	.397
147	15.11	35.012	1.64						200	13.99	34.98	26.14	189.4	.494
198	14.05	34.978	1.25						250	12.58	34.90	26.42	168.3	.585
299	11.18	34.822	0.19						300	11.16	34.82	26.67	149.3	.665
394	9.24	34.708	0.37						400	9.22	34.71	26.88	127.0	.803
599	7.45	34.623	0.61						500	8.16	34.65	27.00	115.7	.924
799	5.60	34.574	1.26						600	7.44	34.62	27.09	109.2	1.037
998	4.59	34.579	1.51						700	6.47	34.59	27.20	98.5	1.140
1198	3.85	34.593	1.75						800	5.59	34.57	27.29	89.2	1.234
1298	3.52	34.601	1.80						1000	4.58	34.58	27.42	78.0	1.401
									1200	3.84	34.59	27.51	69.2	1.548

YPT 66 01 07.5 S 082 00.0 W DATE 08 FEB 69 2352 ICT WIRE 07 DRY 76.9 WET 74.8 CRUISE YALCOA9														
WIND DIRECTION 20 VEL 05 KTS BAR 08 SWELL DIRECTION 18 H 03 T 08 CLOUD 6 AMT 0 WEATHER 02														
0	24.72	34.616	4.16			8.176	2.377		0	24.73	34.62	23.16	472.5	0
10	22.62	34.644	4.72						10	22.63	34.65	23.87	412.2	.044
20	19.24	34.939	2.97						20	19.25	34.94	24.94	303.9	.080
30	18.51	35.005	2.67						30	18.51	35.01	25.18	281.8	.109
40	18.45	35.037	2.66						50	17.40	35.06	25.49	252.3	.163
49	17.47	35.062	2.57						75	16.33	35.09	25.74	227.1	.223
75	16.33	35.086	2.29						100	15.48	35.02	25.97	214.8	.278
99	15.51	35.016	2.19						150	14.90	35.00	26.10	196.5	.381
147	14.55	35.004	1.74						200	13.63	34.95	26.25	183.9	.476
199	13.68	34.951	1.31						250	11.93	34.85	26.51	153.9	.562
294	10.31	34.754	0.19						300	10.28	34.75	26.73	139.0	.636
394	9.28	34.694	0.14						400	9.26	34.69	26.84	124.4	.770
599	7.08	34.599	0.69						500	8.14	34.64	27.00	115.1	.862
800	5.50	34.562	1.24						600	7.07	34.60	27.12	105.4	1.003
999	4.86	34.544	1.45						700	6.19	34.57	27.22	93.1	1.104
1199	3.90	34.580	1.69						800	5.41	34.57	27.30	84.5	1.194
1399	3.39	34.597	1.88						1000	4.86	34.58	27.37	82.4	1.367
									1200	3.90	34.58	27.49	70.4	1.521

OBSERVED

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D T S O₂ O₂ PO₄ pH Alk. NO₃ SiO₂
(m) (°C) (‰) (ml/l) (ml/l) (μM) (meq/l) (μM) (μM)

Z T S ΔO
(m) (°C) (‰) (x10²) (dyn/cm)

YPT 67 01 04.1 S 081 06.6 W DATE 09 FEB 69 0701 AC. WIRE 04 DRY 74.8 WET 73.8 CRUISE YALCC49
WIND DIRECTION 16 VEL 05 KTS BAR 11 SWELL DIRECTION 19 H 02 T 10 CLOUD 6 AMT A WEATHER 02

0 23.90 34.616 5.16
10 20.73 34.802 3.65
20 19.75 34.892 3.12
30 17.73 35.011 2.75
40 16.95 35.055 2.47
49 16.50 35.039 2.30
75 15.75 35.008 2.19
99 15.28 35.005 2.08
148 14.66 34.985 1.77
173 14.62 34.987 1.63
199 13.05 34.910 0.76

8.192 2.373

0 23.90 34.62 23.41 449.2 0
10 20.73 34.81 24.44 350.8 .040
20 19.75 34.90 24.77 313.9 .074
30 17.73 35.02 25.27 262.9 .173
40 16.95 35.04 25.60 233.0 .152
50 16.46 35.01 25.84 220.1 .239
75 15.75 35.00 25.94 210.4 .243
100 15.26 35.00 26.04 200.8 .366
150 14.66 34.99 26.34 174.5 .459
200 12.99 34.91

YPT 68 01 07.0 S 081 21.8 W DATE 09 FEB 69 1240 GCT WIRE DRY 75.4 WET 72.9 CRUISE YALCC49
WIND DIRECTION 18 VEL 12 KTS BAR 12 SWELL DIRECTION 19 H 03 T 06 CLOUD 6 AMT A WEATHER 02

0 23.30 34.733 5.12
10 20.83 34.764 4.07
20 19.56 34.799 3.05
30 18.05 34.941 2.47
40 17.16 35.029 2.47
49 16.47 35.035 2.30
75 15.68 35.019 2.19
99 15.14 34.007 1.79
148 14.57 34.591 1.75
199 13.88 34.952 1.27
300 11.65 34.829 0.19
399 9.10 34.687 0.28
600 8.96 34.595 0.70
801 5.57 34.562 1.25
1002 4.45 34.570
1201 3.73 34.549 1.78
1503 3.04 34.611 1.99
1897* 2.36 34.642 2.29
2002 2.28 34.642
2195* 2.09 34.657 2.57
2393* 2.01 34.659 2.69
2592* 1.80 34.670 3.01
2740* 1.80 34.672 3.04
2891* 1.77 34.672 3.07
2939* 1.80 34.673 3.07
2963* 1.77 34.577 3.05
2974*
2983*
2988*
2989*

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8.006

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7.832

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7.640

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7.684

2.73 7.692

2.47 7.694

2.72 7.696

3.01 7.699

3.02 7.702

3.02 7.697

3.03 7.699

3.06 7.695

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YPT 69 01 56.8 S 081 32.1 W DATE 10 FEB 69 0148 GCT WIRE DRY 74.8 WET 72.0 CRUISE YALCC49
WIND DIRECTION 22 VEL 06 KTS BAR 11 SWELL DIRECTION 19 H 03 T 06 CLOUD 3 AMT 3 WEATHER 02

0 23.73 34.782 5.46
10 23.23 34.782 5.36
20 20.49 34.807 3.85
30 18.42 34.984 2.73
40 17.17 34.971 2.55
49 16.41 34.989 2.19
75 15.78 35.017 2.19
99 14.54 35.009 2.02
147 14.43 34.993 1.64
198 13.62 34.950 1.09
200 10.42 34.792 0.14
398 9.23 34.700 0.25
599 7.14 34.606 0.66
800 5.47 34.569 1.26
990* 4.58 34.574 1.45
999 4.53 34.574 1.48
1189* 3.92 34.584 1.66
1190 3.86 34.585 1.73
1489* 2.99 34.618 1.95
1986* 2.29 34.649 2.36
2485* 34.664 2.44
2683* 1.83 34.670 3.03
2882* 1.77 34.672 3.12
2932* 1.79 34.675 3.12
2957* 1.77 34.672 3.12
2967*
2974*
2981*
2982*

8.211

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7.680

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2.75 7.690

2.68 7.699

3.07 7.702

3.06 7.702

3.11 7.695

3.11 7.690

3.11 7.685

3.08 7.701

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0 23.73 34.79 23.58 432.5 0
10 23.23 34.79 23.73 419.9 .743
20 20.50 34.81 24.51 344.7 .041
30 18.42 34.99 25.14 261.1 .112
40 16.76 34.99 25.59 243.2 .154
50 15.78 35.02 25.81 220.3 .222
75 15.42 35.01 25.89 218.0 .277
100 14.38 34.99 26.12 193.8 .380
150 13.57 34.95 26.26 182.9 .474
200 12.19 34.87 26.48 163.3 .561
250 10.78 34.79 26.68 144.0 .638
300 9.20 34.70 26.87 127.4 .774
400 8.05 34.64 27.01 114.8 .895
500 7.13 34.61 27.12 105.9 1.005
600 6.23 34.58 27.22 96.1 1.106
700 5.47 34.57 27.31 87.6 1.198
800 4.53 34.57 27.42 77.4 1.361
1000 3.86 34.59 27.50 69.9 1.510
1200 2.97 34.62 27.61 58.9 1.704
1500 2.28 34.65 27.70 51.1 1.978
2000 1.90 34.67 27.74 47.7 2.225
2500

OBSERVED

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D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ _t	δ	AD
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μM)		(meq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(10 ⁻³)	(dyn.m)

YTT 70 04 00.0 S 092 00.0 W DATE 14 FEB 69 100A RCT WIRE 02 DRY 70.8 WET 69.4 CRUISE YALC49
WIND DIRECTION 17 VEL 14 KTS BAR 10 SWELL DIRECTION 17 H 02 T 06 CLOUD 8 AMT 4 WEATHER 02

0	21.07	34.925	4.33			8.161	2.372			0	21.07	34.93	24.44	350.4	0
10	21.02	34.922	4.30			8.154	2.370			10	21.02	34.93	24.46	349.4	.035
20	20.10	34.912	3.42			8.020	2.361			20	20.10	34.92	24.69	327.2	.049
30	19.12	35.097	2.89			7.982	2.375			30	19.13	35.10	25.09	299.8	.100
40	18.02	35.048	2.66			7.936	2.375			40	17.40	35.03	25.46	254.9	.154
49	17.45	35.027	2.46			7.915	2.370			49	16.25	35.09	25.78	225.1	.214
75	16.25	35.088	2.12			7.871	2.367			75	14.98	35.08	26.06	199.4	.267
98	15.04	35.079	1.92			7.859	2.375			98	14.07	34.99	26.19	188.7	.344
147	14.11	34.989	1.31			7.777	2.350			147	13.42	34.95	26.29	179.8	.456
197	13.45	34.953	0.97			7.716	2.367			197	12.88	34.92	26.38	172.9	.544
298	12.17	34.876	0.28			7.629	2.363			298	12.11	34.87	26.49	162.9	.628
398	9.20	34.703	0.20			7.527	2.377			398	9.17	34.70	26.88	126.4	.773
599	7.31	34.614	0.51			7.523	2.389			599	7.49	34.63	27.03	112.9	.993
799	5.58	34.566	1.18			7.550	2.403			799	7.30	34.61	27.10	107.4	1.003
998	4.70	34.573	1.40			7.569	2.424			998	6.37	34.58	27.20	98.0	1.106
1199	3.74	34.583	1.72			7.585	2.443			1199	5.57	34.57	27.29	89.5	1.200
1448*	3.23	34.616	1.90			7.610	2.465			1448*	4.69	34.57	27.40	79.8	1.349
1499	3.14	34.613	1.91			7.603	2.465			1499	3.76	34.58	27.51	68.6	1.517
1943*	2.35	34.649	2.36			7.634	2.485			1943*	3.14	34.61	27.59	61.4	1.712
1998	2.29	34.646	2.38			7.644	2.487			1998	2.29	34.65	27.69	51.5	1.994
2190*	2.16	34.660	2.54			7.651	2.491			2190*	1.49	34.67	27.75	47.0	2.240
2439*	1.92	34.672	2.83			7.684	2.499			2439*	1.42	34.68	27.76	47.2	2.475
2687*	1.83	34.682	3.00			7.690	2.500								
2936*	1.82	34.684	3.08			7.692	2.500								
3183*	1.93	34.682	3.07			7.684	2.505								
3432*	1.86	34.683	3.09		2.56	7.702	2.497		151						
3706*	1.84	34.684	3.12		2.78	7.699	2.505		150						
3730*	1.86	34.683	3.12		2.47	7.697	2.499		149						
3754*	1.86	34.684	3.10	3.07	2.68	7.701	2.500		150						
3769*		34.684		3.08	2.70	7.694			150						
3778*		34.684		3.07	2.63	7.707			150						
3783*		34.684		3.07	2.65	7.702			149						
3784*		34.685		3.06	2.67	7.706			149						

YTT 71 00 04.2 N 086 29.0 W DATE 16 FEB 69 0606 RCT WIRE 03 DRY 76.6 WET 74.5 CRUISE YALC49
WIND DIRECTION 12 VEL 06 KTS BAR 10 SWELL DIRECTION 14 H 02 T 10 CLOUD 8 AMT 1 WEATHER 02

0	24.71	34.062	4.78			8.202	2.321			0	24.71	34.07	22.75	412.2	0
10	23.07	34.261	4.50			8.158	2.332			10	23.07	34.27	23.38	452.1	.048
20	21.37	34.835	3.92			8.093	2.370			20	21.35	34.84	24.29	365.4	.089
30	20.56	34.956	3.64			8.095	2.379			30	20.56	34.96	24.61	336.0	.124
40	18.01	35.157	2.02			8.013	2.375			40	17.38	35.14	25.55	246.3	.192
49	17.45	35.145	2.67			7.960	2.379			49	15.82	35.02	25.83	220.9	.241
75	15.92	35.017	2.51			7.924	2.370			75	15.04	35.03	26.01	204.6	.294
99	15.06	35.027	2.32			7.907	2.372			99	14.47	34.99	26.10	196.7	.344
147	14.52	34.993	2.02			7.866	2.372			147	13.42	34.95	26.25	183.7	.449
198	13.64	34.951	1.45			7.788	2.375			198	12.95	34.91	26.36	174.9	.579
298	12.23	34.867	0.40			7.655	2.370			298	12.18	34.86	26.47	164.8	.664
398	9.66	34.728	0.28			7.578	2.382			398	9.42	34.73	26.83	132.3	.812
597	7.05	34.606	0.79			7.562	2.387			597	8.05	34.65	27.02	114.3	.934
799	5.64	34.573	1.31			7.585	2.409			799	7.04	34.61	27.17	104.6	1.045
999	4.62	34.575	1.49			7.588	2.432			999	6.24	34.58	27.22	96.3	1.145
1169*	4.03	34.586	1.68			7.594	2.452			1169*	5.43	34.57	27.29	89.8	1.238
1199	3.77	34.591	1.83			7.605	2.447			1199	4.62	34.58	27.41	78.7	1.407
1467*	3.14	34.614	1.95			7.605	2.471			1467*	3.76	34.59	27.51	68.4	1.554
1500	3.09	34.617	1.97			7.620	2.468			1500	3.10	34.62	27.60	60.2	1.746
1966*	2.39	34.650	2.29			7.641	2.500			1966*	2.34	34.65	27.69	51.7	2.024
2164*	2.13	34.660	2.42			7.660	2.502			2164*	2.09	34.67	27.72	50.2	2.281
2364*	2.09	34.664	2.51			7.663	2.507								
2564*	2.08	34.667	2.55			7.661	2.515		152						
2663*	2.05	34.664	2.69			7.661	2.510		154						
2713*	2.07	34.666	2.61	2.52		7.668	2.514		154						
2737*	2.03	34.664	2.61	2.53		7.668	2.514		153						
2748*		34.668		2.55		7.663			154						
2757*		34.668		2.53		7.670			154						
2762*		34.668		2.54		7.661			154						
2763*		34.668		2.50		7.672			152						

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OBSERVED

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O	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)
YTT 75 03 28.0 M 099 43.0 W DATE 18 FEB 69 1159 GCT WIRE 03 DRY 79.3 WET 75.1 CRUISE YALCCAG															
WIND DIRECTION 21 VEL 04 KTS BAR 08 SWELL DIRECTION 27 M 01 T 08 CLOUD 8 AMT 6 WEATHER 02															
0	27.82	31.427	4.78				8.282	2.129		0	27.82	31.43	19.80	794.8	0
10	27.93	31.713	4.80				8.282	2.144		10	27.94	31.72	19.94	779.7	.079
20	27.78	31.935	4.78				8.272	2.154		20	27.78	31.94	20.10	757.7	.155
30	27.47	32.156	4.79				8.279	2.177		30	27.43	32.16	20.44	732.4	.230
40	27.40	32.5	4.79				8.269	2.190		40	27.17	33.74	21.74	607.2	.364
49	27.50	33.643	4.78				8.229	2.264		50	27.00	34.93	25.44	253.4	.471
75	17.00	34.929	2.39				7.919	2.354		75	17.00	34.93	25.44	206.4	.529
99	14.79	34.914	2.08				7.864	2.359		100	14.74	34.91	25.94	181.7	.526
148	13.53	34.932	2.21				7.857	2.362		150	13.52	34.93	26.24	180.5	.714
198	13.47	34.952	2.22				7.663	2.362		200	13.46	34.95	26.24	174.7	.805
299	12.06	34.840	0.81				7.552	2.359		250	12.04	34.91	26.34	144.7	.890
399	9.28	34.691	0.37				7.525	2.373		300	12.03	34.84	26.44	129.7	1.036
599	6.86	34.597	0.63					2.386		400	9.26	34.64	26.86	111.7	1.156
800	5.58	34.568	1.37					2.397		500	7.72	34.62	27.04	102.4	1.263
992	4.91	34.569	1.35				7.574	2.413		600	6.85	34.63	27.15	94.4	1.362
1000	4.84	34.574	1.46				7.581	2.413		700	6.11	34.53	27.23	89.1	1.454
1192	4.05	34.588	1.52				7.576	2.436		800	5.58	34.57	27.23	81.7	1.624
1200	3.99	34.589	1.54				7.593	2.433		1000	4.84	34.55	27.34	71.7	1.776
1489	3.16	34.620	1.82				7.603	2.464		1200	3.99	34.53	27.44	60.7	1.974
1787	2.54	34.641					7.641	2.490		1500	3.13	34.62	27.63	50.4	2.252
1988	2.26	34.652	2.37		2.74		7.644	2.493		2000	2.23	34.65	27.70		
2086	2.10	34.655	2.48		2.85		7.658	2.484	148						
2136	2.08	34.659	2.55	2.51	2.79		7.658	2.490	150						
2161	2.01	34.654	2.56	2.53	2.76		7.663	2.494	151						
2171		34.658		2.63	2.41		7.661	2.500	149						
2186		34.663		2.54	2.85		7.656	2.493	149						
2185		34.661		2.58	2.49		7.651	2.500	149						
2180		34.662		2.59	2.72		7.653	2.494	150						

YTT 76 01 00.1 M 092 00.0 W DATE 19 FEB 69 1730 GCT WIRE 10 DRY 78.9 WET 75.0 CRUISE YALCCAG

WIND DIRECTION 16 VEL 10 KTS BAR 10 SWELL DIRECTION 18 M 02 T 10 CLOUD 8 AMT 2 WEATHER 02															
0	26.54	33.713	4.80				8.226	2.275		0	26.54	33.72	21.92	591.2	0
10	26.04	33.732	4.80				8.219	2.281		10	26.04	33.74	22.09	475.2	.058
20	23.98	34.208	4.80				8.193	2.312		20	23.98	34.21	23.09	481.4	.111
30	22.96	34.418	4.39				8.158	2.316		30	22.96	34.42	23.59	438.4	.157
40	22.70	34.739	4.41				8.129	2.334		40	21.76	34.90	24.16	379.7	.239
49		34.796	3.97				8.091	2.342		50	21.48	34.82	25.04	295.3	.323
75	18.47	34.818	2.75				7.955	2.342		75	18.48	34.83	25.87	223.3	.388
98	15.59	34.879	2.01				7.866	2.342		100	15.46	34.83	26.15	191.7	.492
147	14.26	34.989	2.57				7.904	2.354		150	14.22	34.93	26.21	185.7	.586
198	13.84	34.941	2.38				7.868	2.354		200	13.43	34.93	26.27	182.3	.679
298	13.30	34.944	1.94				7.820	2.357		250	13.26	34.94	26.22	180.7	.769
398		34.799	0.28				7.597	2.367		300	11.41	34.93	26.59	156.4	.937
599	7.14	34.593	0.92				7.579	2.372		400	9.26	34.63	26.85	131.3	1.081
799	5.85	34.560	1.45				7.581	2.389		500	7.13	34.59	27.11	106.9	1.200
805	5.86	34.561	1.45					2.382		600	6.15	34.53	27.22	95.4	1.301
998	4.88	34.561	1.57				7.585	2.411		700	5.45	34.55	27.25	93.7	1.396
1004	4.92	34.562	1.53				7.588	2.403		800	4.89	34.55	27.37	83.3	1.573
1204	4.00	34.575	1.78				7.593	2.425		1000	4.04	34.57	27.47	73.3	1.725
1505	3.20	34.600	1.99				7.607	2.452		1200	3.21	34.62	27.57	63.2	1.933
2004	2.33	34.637	2.45		2.90		7.649	2.471	142	1500	2.34	34.64	27.64	52.4	2.223
2251	2.02	34.653	2.75		2.90		7.663	2.484	149	2000					
2302	2.01	34.655	2.75	2.72	2.77		7.655	2.485	149						
2327	1.97	34.657	2.75	2.73	2.87		7.653	2.485	149						
2338		34.662		2.77	2.71		7.664	2.491	148						
2347		34.661		2.74	2.78		7.665	2.483	149						
2352		34.661		2.74	3.07		7.656	2.491	149						
2353		34.659		2.74	2.92		7.661	2.491	149						

YTT 77 00 27.5 M 091 58.8 W DATE 20 FEB 69 0219 GCT WIRE 01 DRY 75.6 WET 74.2 CRUISE YALCCAG

WIND DIRECTION 22 VEL 05 KTS BAR 08 SWELL DIRECTION 18 M 02 T 08 CLOUD 8 AMT 3 WEATHER 02															
0	22.91	34.874	4.36				8.124	2.389		0	22.92	34.88	23.89	403.1	0
10	22.43	34.854	4.34							10	22.44	34.88	24.02	391.4	.040
20	22.33	34.853	4.29							20	22.33	34.88	24.24	384.4	.079
30	22.20	34.840	4.24							30	22.21	34.84	24.37	387.4	.116
40	21.95	34.833	4.15							40	21.96	34.83	24.39	366.9	.193
49		34.829	4.02							50	21.76	34.83	24.37	303.1	.277
75	18.80	34.827	3.04							75	18.80	34.83	24.37	216.9	.342
99	15.13	34.861	2.66							100	15.06	34.86	25.48	194.4	.445
148	14.28	34.941	2.56							150	14.27	34.86	26.12	191.7	.541
199	14.14	34.983	2.57							200	14.13	34.88	26.17	184.6	.635
300	12.87	34.916	1.34							250	13.44	34.86	26.24	173.3	.725
400	10.67	34.784	0.29							300	12.88	34.92	26.38	145.4	.884
601	6.49	34.600	1.00							400	10.87	34.79	26.70	121.2	1.018
802	5.54	34.544	1.54							500	8.44	34.68	26.75	104.5	1.131
1007	4.78	34.566	1.73							600	7.00	34.60	27.13	94.1	1.230
										700	6.09	34.57	27.23	84.3	1.322
										800	5.55	34.56	27.29	81.5	1.407
										1000	4.78	34.57	27.30		

OBSERVED										INTERPOLATED				DERIVED		
D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ _t	δ	ΔD	
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μM)		(meq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(x10 ³)	(dyn.m)	
YTT 78 00 00.0 N 092 00.0 W DATE 20 FEB 69 0612 ACT WIRE 07 DRY 73.8 WET 72.8 CRUISE YALCAG																
WIND DIRECTION 22 VEL 04 KTS BAR 09 SWELL DIRECTION 18 H 02 T 11 CLCUD 6 AMT 3 WEATHER 02																
0	22.81	34.943	4.19				8.106	2.385		0	22.81	34.95	23.97	195.4	0	
10	22.03	34.917	4.07							10	22.03	34.92	24.17	176.4	.039	
20	22.00	34.911	4.04							20	22.00	34.92	24.18	176.5	.076	
30	21.93	34.899	3.96							30	21.94	34.90	24.19	175.9	.114	
40	21.84	34.899	3.96							50	21.75	34.89	24.21	172.3	.149	
49	21.78	34.896	3.95							75	20.15	34.82	24.61	137.0	.277	
75	20.14	34.816	3.50							100	17.74	34.86	25.24	176.3	.354	
99	17.81	34.859	2.80							150	15.35	35.03	25.94	212.5	.476	
148	15.39	35.023	2.93							200	14.83	35.07	26.00	193.7	.579	
199	14.43	35.070	2.85							250	14.76	35.05	26.08	201.7	.679	
300	14.39	35.025	2.75							300	14.39	35.03	26.15	195.5	.779	
400	10.74	34.787	0.28							400	10.74	34.79	26.68	146.6	.950	
601	7.04	34.594	1.02							500	8.44	34.66	26.96	117.6	1.043	
802	5.85	34.565	1.63							600	7.05	34.59	27.12	105.6	1.196	
1002	4.94	34.564	1.78							700	6.28	34.57	27.20	97.8	1.298	
										800	5.85	34.57	27.25	93.1	1.393	
										1000	4.95	34.56	27.36	83.8	1.570	
YTT 79 00 30.0 S 092 00.0 W DATE 20 FEB 69 1010 ACT WIRE 06 DRY 72.6 WET 71.7 CRUISE YALCAG																
WIND DIRECTION VEL 00 KTS BAR 08 SWELL DIRECTION 18 H 02 T 09 CLCUD AMT 0 WEATHER 02																
0	22.00	34.963	4.06				8.100	2.405		0	22.00	34.97	24.22	372.1	0	
10	21.88	34.958	4.00							10	21.88	34.96	24.25	369.6	.037	
20	21.73	34.955	3.95							20	21.73	34.96	24.29	366.2	.074	
30	21.63	34.955	3.87							30	21.63	34.96	24.31	363.9	.110	
39	21.43	34.945	3.79							50	21.37	34.93	24.36	363.0	.183	
48		34.932	3.72							75	20.70	34.92	24.54	344.2	.271	
73	20.85	34.909	3.57							100	18.66	35.04	25.16	285.4	.349	
97	18.47	35.023	2.99							150	16.08	35.18	25.89	217.3	.475	
146	16.21	35.181	2.92							200	15.08	35.10	26.05	203.0	.540	
195	15.10	35.101	2.77							250	14.86	35.07	26.08	201.7	.681	
294	14.57	35.044	2.66							300	14.37	35.03	26.15	196.0	.741	
393	10.81	34.786	0.34							400	10.62	34.77	26.69	145.7	.952	
590	7.32	34.603	0.95							500	8.44	34.65	26.94	120.1	1.084	
789	6.20	34.565	1.33							600	7.24	34.60	27.10	109.0	1.198	
984	4.96	34.556	1.67							700	6.56	34.57	27.17	101.5	1.303	
										800	6.13	34.56	27.22	97.2	1.402	
										1000	4.86	34.56	27.37	83.2	1.583	
YTT 80 01 00.0 S 092 00.5 W DATE 20 FEB 69 1547 ACT WIRE 02 DRY 77.0 WET 74.0 CRUISE YALCAG																
WIND DIRECTION 14 VEL 13 KTS BAR 10 SWELL DIRECTION 18 H 02 T 07 CLCUD 8 AMT 1 WEATHER 02																
0	22.08	34.988	4.00				8.107	2.372		0	22.08	34.99	24.21	372.4	0	
10	22.01	34.989	3.95				8.105	2.382		10	22.01	34.99	24.23	370.8	.037	
20	21.96	35.001	3.88				8.096	2.387		20	21.96	35.01	24.24	369.0	.074	
29	21.93		3.84				8.095			30	21.93	35.00	24.26	368.9	.111	
39	21.92		3.78				8.083			50	21.87	34.99	24.27	368.5	.185	
48	21.91		3.77				8.083			75	20.76	34.99	24.57	340.7	.273	
73	20.90		3.54				8.060			100	18.80	34.98	25.08	293.0	.353	
97	19.07		2.38				7.936			150	15.10	34.97	25.90	215.9	.440	
146	15.41		2.38				7.902			200	14.73	34.95	26.02	205.1	.585	
195	14.79		2.66				7.912			250	13.99	34.94	26.17	193.3	.685	
294	13.14		1.37				7.767			300	12.96	34.93	26.37	175.2	.777	
394	10.10		0.34				7.584			400	9.97	34.90	26.90	125.3	.927	
591	7.33		0.97				7.568			500	8.26	34.87	27.16	100.9	1.040	
788	5.84		1.70				7.593			600	7.24	34.85	27.26	89.8	1.135	
985			1.76				7.590			700	6.39	34.82	27.36	80.6	1.221	
1055	4.65		1.73				7.594			800	5.77	34.80	27.44	75.2	1.299	
1183	4.14		1.89				7.597			1000	4.85	34.85	27.68	54.3	1.428	
1255	3.80		1.94				7.598			1200	4.06	34.84	27.68	53.7	1.536	
1513	3.03	34.609	2.10				7.607	2.462		1500	3.06	34.62	27.60	59.9	1.706	
2050	2.26	34.644	2.47				7.649	2.493		2000	2.10	34.64	27.69	51.9	1.985	
2548	1.90	34.667	2.88				7.670	2.502		2500	1.92	34.67	27.74	49.1	2.215	
3046	1.79	34.676	3.08			2.72	7.692	2.507	152	3000	1.79	34.68	27.75	47.3	2.474	
3393	1.40	34.675	3.11				2.42	7.689	152							
3444	1.83	34.676	3.11			3.06	2.46	7.692	153							
3468	1.83	34.675	3.11			3.04	2.79	7.694	151							
3477						3.00	2.73	7.687	152							
3488						3.02	2.73	7.687	152							
3491						2.99	2.72	7.692	151							
3492						3.00	2.61	7.697	152							

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn/cm)
YTT 81 02 00.0 S 091 59.4 W DATE 21 FEB 69 0215 ACT WIRE 07 DRY 76.0 WET 74.4 CRUISE YALCO-9															
WIND DIRECTION 09 VEL 04 KTS BAR 10 SWELL DIRECTION 17 H 04 T 07 CLOUD 8 AMT 1 WEATHER 02															
0	24.08	34.883	4.50				8.110	2.377		0	24.08	34.89	23.56	435.0	0
10	23.31	34.871	4.43							10	23.31	34.88	23.77	414.7	.042
20	23.30	34.867	4.43							20	23.30	34.87	23.77	415.1	.044
30	23.27	34.869	4.41							30	23.27	34.87	23.78	414.4	.125
40		34.875	4.41							50	23.21	34.89	23.82	412.1	.218
49	23.28	34.885	4.34							75	20.13	35.05	24.79	319.5	.310
75	20.12	35.050	3.11							100	15.47	35.18	25.92	212.9	.346
98	16.14	34.184	1.71							150	14.32	35.06	26.18	184.9	.426
147	14.37	35.061	2.30							200	13.45	35.01	26.22	186.4	.550
197	13.97	35.007	2.49							250	13.45	34.98	26.27	187.4	.654
298	13.45	34.951	1.42							300	13.39	34.95	26.30	182.2	.746
397	10.21	34.763	0.19							400	10.14	34.76	26.74	138.4	.936
598	7.36	34.613	0.70							500	8.36	34.66	26.98	118.1	1.035
796	5.66	34.560	1.54							600	7.32	34.61	27.02	104.2	1.148
994	4.89	34.556	1.86							700	6.35	34.58	27.20	95.1	1.251
										800	5.44	34.56	27.28	90.8	1.345
										1000	4.87	34.56	27.37	83.3	1.519
YTT 82 03 00.0 S 092 00.0 W DATE 21 FEB 69 0938 ACT WIRE 08 DRY 78.0 WET 75.3 CRUISE YALCO-9															
WIND DIRECTION 09 VEL 10 KTS BAR 09 SWELL DIRECTION 18 H 04 T 10 CLOUD 8 AMT 1 WEATHER 02															
0	25.55	34.181	4.90				8.204	2.340		0	25.55	34.19	22.58	429.0	0
10	25.34	34.243	4.90							10	25.34	34.25	22.70	417.7	.052
20	24.57	34.509	4.90							20	24.57	34.51	23.13	476.7	.102
30	24.29	34.681	4.78							30	24.29	34.69	23.34	456.4	.149
40	23.00	34.872	4.41							50	21.11	35.16	24.61	336.3	.228
49	21.36	35.160	2.38							75	15.49	35.16	25.91	212.7	.297
75	15.49	35.151	2.57							100	15.81	35.14	25.92	212.4	.350
98	15.83	35.145	2.57							150	15.03	35.10	26.06	200.6	.453
147	15.08	35.100	2.49							200	14.12	35.03	26.21	188.1	.550
197	14.17	35.030	2.19							250	13.24	34.98	26.35	175.4	.641
298		34.935	0.35							300	12.37	34.93	26.49	163.5	.726
397	10.75	34.797	0.15							400	10.70	34.79	26.69	145.4	.980
597	7.56	34.624	0.37							500	9.01	34.69	26.90	126.1	1.016
796	5.76	34.574	1.17							600	7.42	34.62	27.07	110.5	1.134
996	4.73	34.570	1.47							700	6.49	34.59	27.19	99.3	1.239
										800	5.73	34.57	27.28	91.1	1.334
										1000	4.71	34.57	27.39	80.2	1.505
YTT 83 04 00.0 S 092 00.4 W DATE 21 FEB 69 1853 ACT WIRE 05 DRY 80.3 WET 75.0 CRUISE YALCO-9															
WIND DIRECTION 13 VEL 12 KTS BAR 11 SWELL DIRECTION 16 H 04 T 09 CLOUD 8 AMT 1 WEATHER 02															
0	26.23	33.968	4.96				8.233	2.315		0	26.23	33.97	22.21	563.5	0
10	26.11	33.972	4.97				8.228	2.307		10	26.11	33.98	22.25	560.0	.056
20	25.84	34.070	4.98				8.219	2.318		20	25.84	34.08	22.41	545.3	.111
30	25.60	34.549	4.90				8.200	2.351		30	25.40	34.55	22.85	504.1	.164
40	23.81	34.557	4.83				8.144	2.375		50	21.24	35.15	24.57	340.1	.248
49	21.52	35.155	4.51				8.088	2.400		75	15.49	35.15	25.95	208.9	.317
75	15.69	35.143	1.89				7.859	2.390		100	14.76	35.10	26.12	193.6	.367
99	14.78	35.098	2.38				7.897	2.371		150	14.22	35.03	26.18	188.9	.443
148	14.25	35.030	2.45				7.888	2.379		200	13.51	34.97	26.29	180.3	.555
198	13.53	34.970	1.61				7.798	2.379		250	13.12	34.94	26.35	175.9	.644
299	12.48	34.916	0.28				7.655	2.370		300	12.46	34.91	26.42	170.3	.731
399	10.68	34.802	0.14				7.571	2.374		400	10.67	34.80	26.70	144.5	.988
599	8.47	34.675	0.34				7.539	2.383		500	9.44	34.73	26.86	130.5	1.025
800	5.79	34.571	1.11				7.542	2.407		600	8.46	34.67	26.97	120.9	1.151
1000	4.61	34.575	1.52				7.511	2.423		700	7.08	34.61	27.13	105.4	1.264
1200	3.81	34.584	1.46				7.591	2.445		800	5.40	34.59	27.27	91.7	1.363
1467*	3.11	34.609	2.10				7.604	2.467		1000	4.41	34.58	27.41	78.7	1.533
1501	3.04	34.615	2.17				7.620	2.463		1200	3.82	34.59	27.41	64.2	1.680
1967*	2.31	34.654	2.38				7.631	2.494		1500	3.04	34.61	27.60	60.1	1.874
1999	2.30	34.654	2.40				7.644	2.494		2000	2.30	34.65	27.70	51.1	2.151
2367*	1.99	34.670	2.75				7.660	2.494		2500	1.91	34.67	27.74	47.4	2.398
2766*	1.81	34.680	3.09				7.685	2.504		3000	1.80	34.68	27.74	46.9	2.833
3164*	1.79	34.685	3.20				7.690	2.504							
3464*	1.81	34.684	3.22				7.690	2.504							
3665*	1.83	34.684	3.22			2.70	7.692	2.504	144						
3714*	1.84	34.684	3.22			2.91	7.695	2.501	145						
3735*	1.84	34.685	3.22			3.16	7.701	2.501	147						
3750*		34.685	3.22			3.16	7.695	2.504	146						
3759*		34.686				3.13	7.694		144						
3742*		34.686				3.12	7.694		145						
3764*		34.686				3.12	7.699		146						
3765*		34.685				3.13	7.695		146						

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Z	T	S	σ_1	δ	ΔD
(m)	(°C)	(%)		($\times 10^6$)	(dyn/cm)

26.36 33.882 4.40				26.36 33.882 4.40			
10	26.36	33.885	4.40	10	26.36	33.885	4.40
20	26.36	33.889	4.40	20	26.36	33.889	4.40
30	26.05	34.294	4.01	30	26.05	34.294	4.01
40	25.43	34.907	4.97	40	25.43	34.907	4.97
49	23.98	34.989	4.49	49	23.98	34.989	4.49
75	17.01	35.183	1.91	75	17.01	35.183	1.91
98	15.12	35.127	2.05	98	15.12	35.127	2.05
123		35.08	2.38	123		35.08	2.38
147	14.27	35.073	2.38	147	14.27	35.073	2.38
172		34.967	0.64	172		34.967	0.64
197	13.37	34.952	0.51	197	13.37	34.952	0.51
247		34.925	0.34	247		34.925	0.34
297	12.51	34.909	0.24	297	12.51	34.909	0.24
347		34.881	0.41	347		34.881	0.41
397	10.71	34.812	0.21	397	10.71	34.812	0.21
554*	7.80	34.638	0.37	554*	7.80	34.638	0.37
851*	5.38	34.585	1.45	851*	5.38	34.585	1.45
1147*	4.06	34.575	1.80	1147*	4.06	34.575	1.80
1439*	3.10	34.607	2.16	1439*	3.10	34.607	2.16
1937*	2.37	34.650	2.34	1937*	2.37	34.650	2.34
2335*	1.48	34.667	2.75	2335*	1.48	34.667	2.75
2734*	1.83	34.675	3.03	2734*	1.83	34.675	3.03
3132*	1.79	34.680	3.20	3132*	1.79	34.680	3.20
3431*	1.81	34.682	3.22	3431*	1.81	34.682	3.22
3630*	1.81	34.683	3.22	3630*	1.81	34.683	3.22
3679*	1.83	34.684	3.22	3679*	1.83	34.684	3.22
3699*	1.80	34.687	3.22	3699*	1.80	34.687	3.22
3714*		34.685	3.22	3714*		34.685	3.22
3724*		34.688		3724*		34.688	
3727*		34.688		3727*		34.688	
3729*		34.686		3729*		34.686	
3730*		34.686		3730*		34.686	

[illegible]

YTT 86	02 00.5 S	091 40.0 W	DATE 23 FEB 69 0340 GCT	WIRE 05	DRY 77.0	WET 75.4	CRUISE YALOGAN			
WIND DIRECTION	16 VFL	05 KTS	BAR 11	SWELL DIRECTION	16 M	04 T	07 CLOUD	6 ANT	3 WEATHER	22
0	24.22	34.930	6.43							
10	23.50	34.931	6.36	8.130	2.374					
20	23.49	34.934	6.36	8.120	2.371					
30	23.47	34.935	6.34	8.115	2.370					
40	23.46	34.935	6.29	8.117	2.366					
49	23.44	34.932	6.24	8.112	2.370					
75	17.05	35.116	7.00	8.113	2.366					
99	15.46	35.157	7.10	7.861	2.370					
124		35.142	7.53	7.871	2.372					
148	14.48	35.068	7.57	7.907	2.384					
173		35.040	7.57	7.884	2.383					
194	13.99	35.015	7.44	7.883	2.387					
249		34.965	1.52	7.875	2.374					
300	13.32	34.947	1.44	7.884	2.369					
350		34.876	0.19	7.762	2.373					
608*	7.09	34.600	1.02	7.604	2.367					
906*	5.19	34.600	1.71	7.568	2.394					
1204*	3.91	34.542	1.92	7.583	2.403					
1502*	3.14	34.611	2.03	7.584	2.442					
1998*	2.33	34.647	2.67	7.601	2.461					
2493*	1.91	34.668	2.85	7.624	2.494					
2990*	1.77	34.677	3.07	7.655	2.494					
3139*	1.80	34.678	3.12	7.680	2.501					
3208*	1.81	34.678	3.07	2.76	2.71	152				
3223*		34.679	3.12	2.71	2.67	152				
3236*		34.682	3.07	2.71	2.67	151				
3230*		34.682	3.10	2.72	2.68	150				
3241*		34.684	3.10	2.71	2.67	149				
3242*		34.686	3.10	2.74	2.68	151				
						150				

OBSERVED

INTERPOLATED

DERIVED

D T S O₂ PO₄ pH Alk. NO₃ SiO₂
(m) (°C) (‰) (ml/l) (μM) (μM) (meq/l) (μM) (μM)

Z T S
(m) (°C) (‰)

σ_t S ΔD
(10³) (dyn/cm)

YTT 91 00 30.0 S 091 40.0 W DATE 23 FEB 69 2340 ACT WIRE DRY 76.9 WET 75.0 CRUISE YALCCAN
WIND DIRECTION VEL 02 KTS BAR 04 SWELL DIRECTION 18 M 04 T 10 CLOUD 6 AMT 6 WEATHER 02

0 23.28 34.943 4.04 8.106 2.367
10 21.98 34.953 3.85
20 21.98 34.956 3.80
30 21.99 34.962 3.78
40 21.99 34.971 3.78
49 21.21 35.015 3.54
75 20.20 34.994 3.22
99 19.60 35.035 3.18
124 19.34 35.112 3.20
144 18.78 35.153 3.14
173 17.93 35.196 2.99
199 16.91 35.204 2.94
244 15.56 35.133 2.85
300 12.30 34.880 0.61
350 11.19 34.820 0.52
400 10.20 34.762 0.34

0 23.28 34.95 73.84 408.3 0
10 21.97 34.96 74.22 172.3 .039
20 21.98 34.96 74.22 172.7 .076
30 21.99 34.97 74.22 172.7 .114
50 21.15 35.01 74.49 247.9 .156
75 20.21 35.00 74.73 325.6 .270
100 19.59 35.04 74.92 408.2 .349
150 18.72 35.16 75.24 279.9 .446
200 16.89 35.20 75.72 235.1 .675
250 15.49 35.13 75.98 211.2 .736
300 12.30 34.88 76.46 165.7 .810
400 10.20 34.76 76.76 139.3 .953

YTT 92 00 14.4 S 091 40.0 W DATE 24 FEB 69 0232 ACT WIRE DRY 75.0 WET 74.0 CRUISE YALCCAN
WIND DIRECTION 21 VEL 04 KTS BAR 10 SWELL DIRECTION 18 M 04 T 07 CLOUD 6 AMT 0 WEATHER 02

0 22.80 34.883 3.96 8.096 2.394
10 21.35 34.914 3.78
20 21.35 34.922 3.61
30 21.01 34.916 3.61
40 21.01 34.924 3.57
49 20.24 34.995 3.31
75 19.50 35.056 3.31
99 19.26 35.088 3.26
123 18.57 35.113 3.11
147 17.37 35.148 2.96
172 16.45 35.169 2.96
197 16.37 35.179 2.94
247 15.63 35.144 2.92
296 12.56 34.887 0.78
346 11.21 34.822 0.39
396 10.46 34.779 0.37

0 22.80 34.89 73.93 399.4 0
10 21.52 34.92 74.31 163.1 .038
20 21.35 34.93 74.37 158.6 .074
30 21.23 34.92 74.40 156.0 .110
50 20.19 35.00 74.74 124.3 .174
75 19.50 35.06 74.96 103.6 .256
100 19.22 35.09 75.06 995.4 .331
150 17.23 35.17 75.61 743.9 .466
200 16.33 35.18 75.83 724.4 .543
250 15.44 35.13 76.00 210.0 .692
300 12.29 34.88 76.47 165.6 .746
400 10.43 34.78 76.73 142.2 .939

YTT 93 00 00.5 N 091 39.6 W DATE 23 FEB 69 0442 ACT WIRE 08 DRY 74.8 WET 73.8 CRUISE YALCCAN
WIND DIRECTION 20 VEL 05 KTS BAR 11 SWELL DIRECTION 18 M 04 T 06 CLOUD 6 AMT 8 WEATHER 02

0 22.97 34.873 4.04 8.101 2.377
10 20.67 34.901 3.59
20 20.67 34.945 3.48
29 20.49 34.968 3.40
39 20.49 34.977 3.39
48 20.20 35.023 3.22
73 19.48 35.075 3.22
97 19.03 35.101 3.22
122 18.87 35.206 2.96
145 17.92 35.236 2.89
170 16.49 35.175 2.99
195 16.44 35.184 2.94
244 15.80 35.149 2.95
294 13.03 34.929 1.17

0 22.98 34.88 73.87 404.8 0
10 20.76 34.91 74.51 344.4 .037
20 20.67 34.95 74.57 339.3 .072
30 20.49 34.97 74.63 333.6 .105
50 20.14 35.03 74.77 120.4 .171
75 19.43 35.08 74.99 100.7 .244
100 19.03 35.11 75.12 288.8 .322
150 17.40 35.22 75.57 248.1 .456
200 16.44 35.18 75.81 226.6 .575
250 15.58 35.13 75.97 212.7 .685
300 12.70 34.90 76.40 171.9 .781

YTT 94 00 00.0 N 091 49.8 W DATE 24 FEB 69 0749 ACT WIRE 08 DRY 72.8 WET 71.8 CRUISE YALCCAN
WIND DIRECTION 18 VEL 04 KTS BAR 10 SWELL DIRECTION 18 M 03 T 09 CLOUD 6 AMT 9 WEATHER 45

0 22.79 34.872 3.99 8.103
9 21.83 34.873 3.85
19 21.83 34.869 3.80
28 21.14 34.876 3.72
38 21.14 34.895 3.50
47 20.73 34.936 3.31
72 20.48 35.054 3.22
95 19.05 35.371 2.83
114 18.51 35.323 2.85
142 17.79 35.285 2.85
166 17.34 35.301 2.85
191 16.62 35.219 2.88
239 15.29 35.105 2.90
284 12.32 34.879 0.70
337 11.49 34.831 0.30

0 22.79 34.88 73.92 400.0 0
10 22.16 34.87 74.10 383.4 .039
20 21.79 34.87 74.20 374.3 .077
30 21.43 34.88 74.31 364.3 .114
50 20.79 34.94 74.54 341.4 .185
75 20.37 35.10 74.79 120.4 .267
100 18.90 35.16 75.35 267.9 .341
150 17.44 35.29 75.61 244.3 .469
200 16.43 35.20 75.83 225.0 .584
250 14.40 35.05 76.12 197.8 .692
300 11.97 34.85 76.51 160.9 .781

OBSERVED

INTERPOLATED										DERIVED				
D	S	O ₂	O ₂	PO ₄	pH	AM.	NO ₃	SiO ₂	Z	T	S	σ _t	σ _s	ΔD
(m)	(‰)	(ml/l)	(ml/l)	(μM)		(μeq/l)	(μM)	(μM)	(m)	(°C)	(‰)		(x10 ³)	(dyn/cm)
PCZ 1	00 54.6	N	0.01	37.4	W	DATE 29 FEB 69	1525	ACT	WIRE 05	DRY	76.4	NET 75.0	CRUISE YALCO44	
WIND DIRECTION	23	VFL	3A	TS		BAR 11	SUELL	DIRECTION	N	T	CLOUD	3	4NT	A WEATHER 02
	0	2A-12	35.354	4.59		8.193								
24	22.91	34.836	4.08						0	76.13	33.36	23.79	404.4	0
49	22.54	34.810	4.06						10	73.14	34.85	23.80	411.4	.051
74	20.88	34.821	3.82						20	72.99	34.84	23.84	409.7	.092
99	18.23	34.877	2.36						30	72.78	34.83	23.89	404.1	.132
									50	72.50	34.81	23.94	398.6	.213
									75	70.45	34.82	24.51	347.0	.304

ECZ 7 00 54.6 N 091 37.9 W DATE 25 FEB 69 1822 ACT WIRE 02 DAY 77.6 NET 75.3 CRUISE YALCFA
WIND DIRECTION 23 VEL 04 KTS BAR 11 SWELL DIRECTION N Y CLOUD 3 AMT A BEATHER 02

0	27.90	34.814	4.18						
25	27.54	34.802	4.67	8.10R					
40	22.47	34.874	4.04		0	22.90	34.82	23.85	40
74	21.23	34.784	1.50		10	22.58	34.78	23.84	40
90	14.41	34.874	2.34		20	22.59	34.79	23.92	40
					30	22.53	34.73		

WIND DIRECTION 20 VFL 14 KTS 44R 10 SWELL DIRECTION 19 M 02 Y 07 CLCUD 3 ANT WET 78.8 CRUISE VALCSAO

0	27.26	32.643	4.77	0	27.26	32.65	20.89	490.1	0
10		31.104	4.88	10	25.47	33.11	21.80	603.8	.085
20	24.55	31.897	4.50	20	24.55	33.90	22.47	920.2	.121
30		34.574	4.25	30	23.43	34.58	23.52	439.9	.169
40	27.70	34.801	4.21	40	22.55	34.40	23.93	600.9	.253
50	22.42	34.794	4.12	50	19.60	34.85	24.77	321.6	.343
60	19.40	34.947	4.15	60	18.32	34.86	25.54	244.0	.414
75	16.40	34.864	2.19	75	14.10	34.57	26.09	198.1	.524
124	14.03	34.867	1.91	100	14.01	34.98	26.19	189.7	.621
144	14.12	34.860	2.34	200	13.72	34.97	26.25	185.5	.715
173	14.08	34.967	2.54	300	12.73	34.91	26.40	171.9	.804
194	14.01	34.976	2.57	400	10.14	34.75	26.76	138.9	.960
244	13.74	34.971	2.36						
299	12.77	34.912	1.09						
344	10.47	34.742	0.77						
394	10.13	34.753	0.24						

YTTTCO 01 30.0 M 00J 40.0 M DATE 29 FEB 69 2216 ZCT WIRE 03 DRY 80.0 WET 77.0 CRUISE YALCCAR
 WIND DIRECTION 23 VFL 10 KTS RAR 07 SWELL DIRECTION 19 M 02 T 08 CLCUD 6 AMT 9 WEATHER 02
 0 27.95 32.115 1 27.95 32.115 2 27.95 32.115 3 27.95 32.115 4 27.95 32.115 5 27.95 32.115

[illegible]

TYPIDR 00 04.2 5 092 25.3 W DATE 07 MAR 69 1557 TCT WTRZ 04 DRY 78.5 WET 75.7 CRUISE YALC060
 WIND DIRECTION 18 VEL 10 KTS BAR 11 SWELL DIRECTION 19 W 02 T 07 CLOUD 6 AMT P WEATHER 02
 0 25.35 14.50 8 01

[illegible]

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	RH	Air	NO ₃	SiO ₂	Z	T	S	σ _t	σ _s	ΔD
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μM)	(%)	(mmHg)	(μM)	(μM)	(m)	(°C)	(‰)	(10 ⁻³)	(dyn/cm ²)	(dyn/cm ²)
YTP104 02 11.0 S 081 29.0 W DATE 04 MAR 69 0145 ACT WIRE 01 DRY 79.2 NET 75.6 CRUISE YALCCAG WIND DIRECTION 24 VEL 02 KTS BAR 10 SWELL DIRECTION 18 M 02 T 08 CL 10 3 AMT 4 WEATHER 02															
0	28.92	34.553	5.06		8.214	2.351				0	28.92	34.56	22.74	512.1	0
10	28.67	34.567	4.06		8.200	2.347				10	28.67	34.57	23.14	475.0	.049
20	22.91	34.765	4.60		8.139	2.357				20	22.92	34.77	23.81	411.7	.094
30	22.07	34.697	4.29		8.105	2.364				30	22.07	34.90	24.15	370.8	.133
40	21.06	34.888	3.98		8.069	2.367				40	20.12	34.96	24.73	329.7	.204
49	20.28	34.956	3.66		8.038	2.372				50	20.12	34.96	24.73	329.7	.204
75	16.37	35.062	2.34		7.888	2.372				75	16.38	35.07	25.74	229.7	.273
99	16.06	35.062	2.20		7.890	2.372				100	16.05	35.06	25.81	223.7	.330
148	15.64	35.031	1.89		7.849	2.377				150	15.61	35.03	25.88	217.7	.440
199	14.85	35.014	1.63		7.796	2.367				200	14.34	35.01	26.08	195.8	.544
300	13.05	34.934	0.78		7.678	2.372				250	13.90	34.98	26.27	168.1	.641
399	10.13	34.741	0.22		7.584	2.372				300	13.05	34.94	26.36	176.1	.733
600	7.56	34.631	0.51		7.516	2.389				400	10.11	34.76	26.77	138.0	.840
801	5.87	34.584	1.07		7.525	2.408				500	8.50	34.67	26.94	114.5	1.018
1001	4.75	34.579	1.45		7.547	2.424				600	7.37	34.64	27.18	92.7	1.238
1062*	4.52	34.583	1.51		7.584	2.432				700	6.63	34.60	27.40	80.2	1.334
1264*	3.87	34.594	1.71		7.569	2.441				800	5.88	34.58	27.27	69.4	1.464
1364*	3.39	34.608	1.84		7.503	2.450				1000	4.75	34.58	27.40	40.2	1.507
1503	3.04	34.624	2.01		7.608	2.473				1200	3.88	34.60	27.50	29.4	1.644
1611*	2.82	34.630	2.08		7.620	2.477				1500	3.05	34.62	27.61	59.5	1.849
1851*	2.48	34.644	2.29		7.636	2.481				2000	2.32	34.65	27.60	51.4	2.127
2164*	2.17	34.661	2.47		7.655	2.497				2500	1.89	34.67	27.75	47.1	2.273
2463*	1.91	34.673	2.85		7.674	2.497				3000	1.40	34.68	27.74	46.9	2.607
2754*	1.80	34.683	3.12		7.694	2.504									
3064*	1.81	34.684	3.19		7.697	2.501									
3364*	1.92	34.684	3.19		7.697	2.499									
3663*	1.61	34.685	3.22	2.49	7.690	2.499	1.68								
3762*	1.82	34.686	3.24	2.76	7.695	2.497	1.68								
3833*	1.83	34.685	3.24	3.19	7.692	2.497	1.68								
3848*	1.82	34.686	3.24	1.20	7.687	2.497	1.68								
3859*		34.689		3.20	7.700	2.496	1.67								
3854*		34.687		3.21	7.701	2.497	1.66								
3860*		34.686		3.21	7.702	2.497	1.64								
3861*				3.19	7.719	2.497	1.66								

YTP105 00 06.0 H 084 03.7 W DATE 09 MAR 69 0644 ACT WIRE 04 DRY 77.0 NET 77.9 CRUISE YALCCAG
WIND DIRECTION 14 VEL 01 KTS BAR 09 SWELL DIRECTION 20 M 02 T 08 CL 04 8 AMT 2 WEATHER 02

0	26.03	34.647	4.97		8.190	2.344			
10	25.39	34.687	4.90		8.178	2.351			
20	24.57	34.766	4.74		8.151	2.349			
30	24.05	34.830	4.60		8.139	2.351			
131A*	3.52	34.804	1.81			2.449			
1614*	2.83	34.637	2.08			2.474			
1914*	2.49	34.647	2.21			2.494			
2213*	2.17	34.662	2.39			2.496			
2513*	2.10	34.666	2.51			2.502			
2812*	2.07	34.672	2.56			2.511			
3111*	2.06	34.671	2.57	2.75		2.511			
3210*	2.10	34.671	2.57	2.76		2.511	155		
3380*	2.09	34.671	2.57	2.56	2.70	2.502	156		
3395*	2.09	34.672	2.59	2.56	2.71	2.502	155		
3602*		34.673		2.47	2.86	2.500	155		
3605*		34.671		2.47	2.89	2.500	155		
3607*		34.671		2.50	2.75	2.504	155		
3608*		34.672		2.49	2.75	2.500	155		

YTP106 02 58.5 H 086 32.8 W DATE 10 MAR 69 1712 ACT WIRE 04 DRY 85.8 NET 79.0 CRUISE YALCCAG
WIND DIRECTION 18 VEL 04 KTS BAR 09 SWELL DIRECTION 20 M 02 T 14 CL 04 8 AMT 2 WEATHER 02

0	24.96	32.734	4.62		8.260	2.214			
10	28.45	32.777	4.71						
20	26.95	33.180	4.90						
30	25.87	33.415	4.91						
49	18.11	34.739	2.55						
75	15.62	34.990	1.99						
99	15.25	35.003	2.02						
147	14.70	35.015	2.19						
197	13.53	34.974	1.62						
244	12.29	34.854	0.55						
344	9.43	34.724	0.22						
544	7.15	34.612	0.59						
744	5.49	34.576	0.92						
997	4.71	34.577	1.38						
1144*	4.22	34.585	1.54						
1197	3.95	34.590	1.54						
1454*	3.36	34.611	1.76						
1497	3.15	34.619	1.62						
1705*	2.71	34.636	2.02						
1954*	2.39	34.650	2.19						
2153*	2.21	34.659	2.37						
2251*	2.18	34.661	2.39						
2354*	2.14	34.664	2.45						
2454*	2.07	34.667	2.47						
2554*	2.05	34.668	2.47						
2653*	2.07	34.667	2.47						
2753*	2.05	34.665	2.47						
2802*	2.08	34.667	2.47						

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	ΔD
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn.m)

YTP107 04 47.1 N 088 24.5 W DATE 11 MAR 69 1723 GCT WIRE DRY 83.2 WET 80.9 CRUISE YALOCAR
WIND DIRECTION 27 VEL 04 KTS BAR 10 SWELL DIRECTION 19 H 04 T 0' CLOUD 3 AMT A WEATHER 02

0	29.48	32.022	4.64				8.296	2.164		0	29.48	32.03	19.78	806.4	0
10	29.07	32.023	4.69				8.291	2.165		10	29.07	32.03	19.84	791.1	.080
20	28.14	32.541	4.82				8.279	2.203		20	28.15	32.55	20.53	725.1	.156
30	26.75	32.963	4.73				8.255	2.231		30	26.75	32.97	21.24	652.4	.225
40	25.15	33.238	4.30				8.188	2.245		40	24.32	33.31	22.15	571.1	.347
50	24.32	34.959	2.27				7.904	2.356		50	24.32	34.96	25.54	247.4	.440
60	24.32	34.965	2.10				7.881	2.354		60	24.32	34.96	25.54	224.1	.508
70	24.32	34.967	2.03				7.861	2.354		70	24.32	34.96	25.54	193.1	.613
80	24.32	34.967	1.93				7.776	2.354		80	24.32	34.96	25.54	161.1	.777
90	24.32	34.967	1.83				7.641	2.354		90	24.32	34.96	25.54	129.1	.795
100	24.32	34.967	1.73				7.585	2.361		100	24.32	34.96	25.54	97.1	.879
110	24.32	34.967	1.63				7.523	2.376		110	24.32	34.96	25.54	65.1	1.032
120	24.32	34.967	1.53				7.521	2.393		120	24.32	34.96	25.54	33.1	1.165
130	24.32	34.967	1.43				7.552	2.420		130	24.32	34.96	25.54	1.1	1.279
140	24.32	34.967	1.33				7.560	2.427		140	24.32	34.96	25.54		1.341
150	24.32	34.967	1.23				7.560	2.427		150	24.32	34.96	25.54		1.475
160	24.32	34.967	1.13				7.560	2.427		160	24.32	34.96	25.54		1.644
170	24.32	34.967	1.03				7.560	2.427		170	24.32	34.96	25.54		1.791
180	24.32	34.967	0.93				7.560	2.427		180	24.32	34.96	25.54		1.945
190	24.32	34.967	0.83				7.560	2.427		190	24.32	34.96	25.54		2.262
200	24.32	34.967	0.73				7.560	2.427		200	24.32	34.96	25.54		2.506
210	24.32	34.967	0.63				7.560	2.427		210	24.32	34.96	25.54		
220	24.32	34.967	0.53				7.560	2.427		220	24.32	34.96	25.54		
230	24.32	34.967	0.43				7.560	2.427		230	24.32	34.96	25.54		
240	24.32	34.967	0.33				7.560	2.427		240	24.32	34.96	25.54		
250	24.32	34.967	0.23				7.560	2.427		250	24.32	34.96	25.54		
260	24.32	34.967	0.13				7.560	2.427		260	24.32	34.96	25.54		
270	24.32	34.967	0.03				7.560	2.427		270	24.32	34.96	25.54		
280	24.32	34.967	0.03				7.560	2.427		280	24.32	34.96	25.54		
290	24.32	34.967	0.03				7.560	2.427		290	24.32	34.96	25.54		
300	24.32	34.967	0.03				7.560	2.427		300	24.32	34.96	25.54		

YTP108 04 06.3 N 085 00.1 W DATE 13 MAR 69 1349 GCT WIRE 02 DRY 85.1 WET 79.3 CRUISE YALOCAR
WIND DIRECTION 15 VEL 10 KTS BAR 13 SWELL DIRECTION 18 H 03 T 12 CLOUD 8 AMT 7 WEATHER 02

0	29.09	31.805	4.65				8.294	2.152		0	29.09	31.81	19.67	807.4	0
10	29.27	32.120	4.67				8.298	2.164		10	29.27	32.13	19.84	791.1	.080
20	29.33	33.262	4.82				8.296	2.245		20	29.33	33.27	20.63	711.1	.155
30	26.68	34.099	4.97				8.258	2.302		30	26.69	34.10	22.17	568.1	.219
40	18.89	34.576	1.83				7.875	2.331		40	18.67	34.60	24.52	316.1	.308
50	15.71	34.943	1.72				7.824	2.361		50	15.71	34.95	25.54	223.1	.375
60	14.82	34.957	1.55				7.804	2.359		60	14.76	34.96	26.01	203.1	.428
70	13.82	34.939	1.43				7.776	2.361		70	13.80	34.94	26.21	186.1	.526
80	13.35	34.928	1.17				7.738	2.359		80	13.33	34.93	26.29	179.1	.618
90	11.78	34.826	0.24				7.610	2.364		90	12.62	34.88	26.40	170.1	.705
100	9.59	34.712	0.09				7.532	2.377		100	11.74	34.82	26.53	159.1	.788
110	6.46	34.602	0.31				7.501	2.383		110	9.55	34.71	26.63	132.1	.934
120	5.57	34.572	1.08				7.535	2.401		120	8.03	34.64	27.01	114.1	1.057
130	4.54	34.578	1.31				7.545	2.414		130	6.95	34.60	27.14	103.1	1.156
140	3.99	34.591	1.49				7.567	2.445		140	6.15	34.48	27.27	95.1	1.245
150	3.94	34.595	1.46				7.554	2.447		150	5.65	34.57	27.30	88.1	1.357
160	3.09	34.623	1.78				7.595	2.480		160	4.63	34.53	27.41	78.1	1.525
170	3.06	34.625	1.82				7.583	2.470		170	3.92	34.60	27.50	70.1	1.673
180	2.54	34.641	2.11				7.619	2.484		180	3.05	34.63	27.61	59.1	1.867
190	2.28	34.656	2.29				7.634	2.496		190	2.34	34.65	27.69	51.1	2.145
200	2.10	34.664	2.47				7.646	2.506		200	2.10	34.67	27.72	50.1	2.400
210	2.10	34.667	2.47				7.649	2.511		210	2.10	34.67	27.72	52.1	2.657
220	2.09	34.667	2.47				7.651	2.509		220	2.10	34.67	27.72		
230	2.10	34.669	2.47				7.651	2.508		230	2.10	34.67	27.72		
240	2.11	34.669	2.49				7.651	2.504		240	2.10	34.67	27.72		
250	2.10	34.668	2.49				7.651	2.504		250	2.10	34.67	27.72		
260	2.13	34.669	2.51				7.651	2.504		260	2.10	34.67	27.72		
270		34.668					7.651	2.502		270	2.10	34.67	27.72		
280		34.668					7.651	2.504		280	2.10	34.67	27.72		
290		34.667					7.651	2.509		290	2.10	34.67	27.72		
300							7.651	2.509		300	2.10	34.67	27.72		

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)
YTP109 02 05.7 N 082 57.8 W DATE 14 MAR 69 1815 GCT WIRE 01 DRY 80.1 WET 76.3 CRUISE YALCCA9															
WIND DIRECTION 20 VEL 04 KTS BAR 13 SWELL DIRECTION 18 H 03 T 14 CLOUD 6 AMT 7 WEATHER 02															
0	27.45	32.947	4.89				8.250	2.231		0	27.46	32.95	21.06	674.0	0
10	27.42	33.318	4.88				8.244	2.257		10	27.42	33.32	21.35	446.7	.064
20	26.90	34.101	4.84				8.190	2.310		20	26.90	34.11	22.72	515.5	.124
30	26.18	34.276	4.61				8.158	2.314		30	26.19	34.24	23.07	482.7	.174
40	20.62	34.784	3.64				8.057	2.344		40	20.62	34.40	24.53	743.9	.257
50	15.45	35.002	2.32				7.898	2.364		50	15.45	35.01	25.81	222.7	.327
60	15.31	35.026	2.40				7.898	2.364		60	15.29	35.03	25.95	204.4	.352
70	15.03	35.031	2.31				7.888	2.364		70	14.99	35.03	26.02	204.4	.445
80	14.28	34.978	1.57				7.805	2.361		80	14.25	34.98	26.14	194.6	.545
90	12.42	34.883	0.28				7.648	2.361		90	13.44	34.93	26.27	182.4	.679
100	9.00	34.698	0.23				7.537	2.374		100	12.35	34.88	26.45	167.0	.757
110	6.87	34.610	0.61				7.520	2.383		110	8.94	34.70	26.91	123.7	.912
120	5.45	34.577	1.20				7.550	2.402		120	7.49	34.43	27.09	107.3	1.024
130	4.59	34.584	1.41				7.554	2.421		130	6.85	34.41	27.16	101.7	1.132
140	3.40	34.600	1.44				7.568	2.442		140	6.07	34.59	27.24	93.6	1.230
150	3.76	34.608	1.57				7.568	2.447		150	5.45	34.58	27.32	86.4	1.320
160	3.09	34.626	1.85				7.598	2.464		160	4.49	34.59	27.42	77.5	1.444
170	3.00	34.629	1.95				7.588	2.470		170	3.76	34.61	27.51	67.7	1.628
180	2.60	34.646	2.15				7.620	2.482		180	3.01	34.63	27.62	58.2	1.816
190	2.18	34.665	2.40				7.643	2.494		190	2.26	34.64	27.71	50.2	2.047
200	2.11	34.672	2.49				7.655	2.507		200	2.06	34.67	27.73	49.6	2.236
210	2.07	34.672	2.53				7.656	2.502		210	2.08	34.68	27.73	51.4	2.558
220	2.06	34.673	2.53				7.656	2.500							
230	2.08	34.675	2.59				7.661	2.504							
240	2.07	34.676	2.70				7.665	2.502							
250	2.07	34.676	2.74			2.69	7.668	2.500	149						
260	2.06	34.677	2.74			2.71	7.668	2.506	150						
270	2.09	34.675	2.74			2.72	7.664	2.500	150						
280	2.06	34.675	2.74			2.66	7.664	2.500	149						
290		34.689				2.71	7.670	2.500	147						
300		34.675				2.68	7.673	2.496	148						
310		37.674				2.68	7.670	2.500	149						
320		34.675				2.65	7.677	2.494	149						
YTP110 00 12.0 S 091 05.2 W DATE 16 MAR 69 0431 GCT WIRE 02 DRY 79.9 WET 75.6 CRUISE YALCCA9															
WIND DIRECTION VEL 00 KTS BAR 12 SWELL DIRECTION 18 H 02 T 12 CLOUD AMT 0 WEATHER 02															
0	27.37	34.106	5.02				8.246	2.315		0	27.38	34.11	21.94	588.1	0
10	25.40	34.678	5.62				8.245	2.359		10	25.40	34.68	23.00	488.2	.054
20	24.01	34.787	4.69				8.154	2.354		20	24.01	34.79	23.51	440.7	.130
30	23.81	34.789	4.60				8.151	2.356		30	23.81	34.79	23.57	435.3	.144
40	22.24	34.942	3.94				8.089	2.361		40	22.16	34.95	24.14	379.0	.225
50	19.70	35.148	2.98				7.994	2.386		50	19.71	35.15	24.98	301.9	.311
60	16.42	35.073	2.17				7.898	2.369		60	16.34	35.07	25.75	224.4	.377
70	14.38	34.987	1.64				7.813	2.359		70	14.34	34.99	26.13	194.4	.443
80	13.72	34.966	1.28				7.765	2.364		80	13.68	34.96	26.25	184.0	.577
90	11.47	34.840	0.25				7.604	2.364		90	12.65	34.91	26.42	169.1	.656
100	9.07	34.705	0.28				7.540	2.371		100	11.44	34.84	26.59	153.1	.746
110	6.84	34.613	0.75				7.530	2.395		110	9.05	34.70	26.90	124.6	.895
120	5.62	34.586	1.24				7.522	2.407		120	7.67	34.64	27.07	109.1	1.032
130	4.81	34.587	1.48				7.559	2.420		130	6.83	34.61	27.16	101.1	1.177
140	3.87	34.601	1.76				7.581	2.447		140	6.14	34.59	27.24	94.0	1.294
150	3.67	34.607	1.79				7.588	2.451		150	5.43	34.59	27.30	84.4	1.444
160	2.97	34.632	2.06				7.602	2.472		160	4.82	34.59	27.40	83.0	1.644
170	2.89	34.635	2.06				7.612	2.480		170	3.47	34.60	27.51	69.0	1.813
180	2.41	34.654	2.35				7.634	2.488		180	2.97	34.63	27.62	59.0	1.973
190	2.19	34.666	2.44				7.644	2.500		190	2.28	34.66	27.70	50.4	2.074
200	2.11	34.670	2.56				7.655	2.502		200	2.11	34.67	27.73	50.2	2.225
210	2.10	34.672	2.54				7.651	2.500		210	1.81	34.68	27.76	47.2	2.558
220	1.98	34.677	2.82				7.666	2.494							
230	1.98	34.679	2.87				7.678	2.494							
240	1.93	34.681	2.97				7.678	2.502							
250	1.81	34.681	3.08			2.46	7.690	2.500	144						
260	1.82	34.682	3.16			2.46	7.690	2.498	145						
270	1.80	34.683	3.16			3.03	7.690	2.494	145						
280		34.683				3.05	7.697	2.494	145						
290		34.685				3.03	7.690	2.494	145						
300		34.686				3.05	7.694	2.494	145						
310		34.687				3.01	7.690	2.494	145						
320		34.687				3.01	7.690	2.502	145						

OBSERVED

INTERPOLATED

DERIVED

D T S O₂ PO₄ pH Alk. NO₃ SiO₂
(m) (°C) (‰) (ml/l) (ml/l) (μM) (meq/l) (μM) (μM)

Z T S σ_t S ΔD
(m) (°C) (‰) (kg/m³) (dyn/cm)

YTP111 05 29.7 M ORI 13.3 M DATE 22 MAR 69 0520 GCT WIRE 02 DRY 83.0 WET 80.0 CRUISE YALOC49
WIND DIRECTION 05 VEL 03 KTS BAR 12 SWELL DIRECTION 18 M 02 T 12 CLOUD 6 AMT 1 WEATHER 02

0	28.43	32.490	4.88			8.268	2.226		0	28.44	32.49	20.70	708.6	0
10	28.12	32.934	4.90			8.267	2.229		10	28.13	32.44	20.84	695.6	.070
20	27.77	32.975	4.91			8.267	2.232		20	27.77	32.48	20.98	682.6	.134
30	27.00	32.596	4.50			8.164	2.274		30	22.00	32.60	22.42	544.2	.200
49	15.26	34.904	1.04			7.760	2.350		50	15.14	34.91	25.84	214.0	.274
75	14.68	34.933	0.90			7.731	2.353		75	14.68	34.94	26.02	202.0	.324
99	14.46	34.935	0.43			7.716	2.344		100	14.44	34.93	26.07	198.4	.374
144	13.42	34.913	0.42			7.678	2.353		150	13.39	34.91	26.27	180.7	.473
199	12.86	34.893	0.80			7.661	2.355		200	12.85	34.89	26.34	172.9	.562
299	11.53	34.814	0.19			7.585	2.354		250	12.21	34.86	26.44	154.6	.546
399	9.99	34.740	0.19			7.542	2.365		300	11.51	34.82	26.54	135.0	.724
600	7.38	34.621	0.23			7.499	2.382		400	9.99	34.74	26.74	137.2	.873
801	5.66	34.584	0.81			7.508	2.401		500	8.58	34.67	26.94	120.4	1.002
1001	4.57	34.589	1.51			7.525	2.421		600	7.39	34.63	27.10	108.1	1.116
1173	3.47	34.600	1.45			7.576	2.439		700	6.43	34.59	27.29	97.9	1.214
1201	3.72	34.607	1.19			7.544	2.444		800	5.67	34.58	27.29	89.4	1.313
1469	3.10	34.624	1.77			7.607	2.465		1000	4.57	34.59	27.42	77.7	1.474
1503	2.98	34.629	1.91			7.576	2.467		1200	3.73	34.61	27.53	66.4	1.623
1768	2.49	34.647	2.15			7.636	2.481		1500	2.99	34.63	27.67	58.5	1.911
2065	2.21	34.660	2.31			7.651	2.491		2000	2.25	34.66	27.76	50.2	2.082
2363	2.11	34.666	2.38			7.661	2.494		2500	2.09	34.67	27.72	50.3	2.333
2562	2.09	34.664	2.44			7.661	2.494		3000	2.04	34.67	27.73	51.1	2.586
2809	2.05	34.672	2.54			7.670	2.495							
3057	2.04	34.673	2.61			7.673	2.505							
3306	2.03	34.674	2.63			7.673	2.501							
3553	2.08	34.672	2.61			7.672	2.505	14.7	150					
3652	2.06	34.675	2.61		2.90	7.670	2.501	19.1	150					
3702	2.09	34.671	2.61		2.97	7.670	2.501	19.2	150					
3717		34.671	2.61	2.54	2.97	7.670	2.501	18.8	150					
3726					2.99	7.668	2.501	18.5	152					
3729		34.671		2.51	2.99	7.666		18.6	151					
3731		34.670		2.51	2.94	7.668	2.501	18.3	150					
3732		34.671		2.50	2.96	7.675	2.507	18.2	150					

YTP112 03 24.0 M ORI 00.0 M DATE 23 MAR 69 1115 GCT WIRE 04 DRY 79.5 WET 77.9 CRUISE YALOC49
WIND DIRECTION 20 VEL 14 KTS BAR 08 SWELL DIRECTION 18 M 02 T 10 CLOUD 6 AMT 8 WEATHER 02

0	27.47	33.076	4.82			8.273	2.239		0	27.48	33.08	21.15	665.3	0
10	25.76	33.454	5.12			8.238	2.283		10	25.76	33.46	21.97	584.9	.093
20	22.27	34.560	4.20			8.117	2.331		20	22.27	34.56	23.84	409.1	.112
30	21.83	34.775	4.11			8.103	2.349		30	21.83	34.78	24.12	382.2	.152
49	19.35	34.914	1.21			8.021	2.351		50	19.25	34.92	25.92	306.7	.221
75	17.41	34.993	2.44			7.934	2.350		75	17.42	35.00	25.44	254.2	.291
98	16.84	35.023	2.30			7.919	2.359		100	16.75	35.02	25.61	242.0	.354
147	14.70	34.977	1.46			7.806	2.354		150	14.65	34.98	26.05	201.5	.446
198	14.22	34.957	1.03			7.760	2.354		200	14.19	34.96	26.14	194.4	.544
294	12.02	34.844	0.21			7.622	2.361		250	13.22	34.91	26.30	180.5	.654
398	9.11	34.703	0.19			7.542	2.369		300	11.96	34.84	26.50	162.4	.743
599	7.00	34.616	0.38			7.511	2.381		400	9.07	34.70	26.94	125.1	.847
799	5.81	34.584	0.92			7.535	2.397		500	7.67	34.64	27.04	104.3	1.004
998	4.70	34.587	1.24			7.549	2.421		600	6.99	34.62	27.14	103.2	1.110
1184	3.98	34.599	1.44			7.584	2.436		700	6.34	34.60	27.22	96.5	1.210
1198	3.91	34.599	1.56			7.593	2.466		800	5.80	34.59	27.28	91.0	1.304
1481	3.12	34.625	1.82			7.629	2.480		1000	4.69	34.59	27.41	74.4	1.474
1499	3.06	34.626	1.87			7.649	2.500		1200	3.90	34.60	27.50	69.5	1.615
1778	2.70	34.642	2.04			7.661	2.494		1500	3.06	34.63	27.61	51.2	2.091
2076	2.23	34.664	2.29			7.666	2.494		2000	2.34	34.66	27.71	50.1	2.345
2373	2.11	34.644	2.47			7.680	2.494		2500	2.09	34.67	27.74	50.7	2.596
2669	2.08	34.672	2.51			7.689	2.494		3000	2.03	34.68			
2967	2.04	34.676	2.66			7.689	2.494							
3264	1.99	34.674	2.84			7.689	2.494							
3562	2.00	34.674	2.85			7.689	2.494							
3760	2.03	34.676	2.85	2.72	2.65	7.684	2.494	19.9	144					
3800	2.00	34.676	2.85	2.74	2.70	7.685	2.494	19.6	149					
3815	2.04	34.676	2.85	2.74	2.74	7.680	2.494	18.8	147					
3827		34.676		2.75	2.77	7.684	2.494	18.4	144					
3825		34.678		2.78	2.77	7.682	2.494	18.6	149					
3827		34.676		2.74	2.72	7.682	2.494	18.1	147					

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-3}$)	(dyn/cm)

YTP113 05 00.0 N 079 00.5 W DATE 24 MAR 69 1155 OCT WIRE 07 DRY 80.0 WET 77.0 CRUISE YALSCA9
WIND DIRECTION 14 VEL 05 KTS BAR 09 SWELL DIRECTION M 02 T CLCUD 6 AMT 2 WEATHER 02

0	27.71	33.032	4.78				8.278	2.242		0	27.71	33.04	21.04	475.9	0
10	27.60	33.139	4.80				8.275	2.245		10	27.60	33.14	21.16	465.2	.047
20	27.67	33.432	4.90				8.265	2.265		20	27.67	33.44	21.35	446.6	.133
30	23.17	34.150	4.24				8.151	2.323		30	23.17	34.16	21.27	463.6	.154
40	20.19	34.833	3.35				8.045	2.356		40	20.19	34.87	25.00	249.2	.244
74	17.84	34.951	2.55				7.956	2.356		75	17.81	34.95	25.31	270.5	.335
98	17.20	34.991	2.38				7.933	2.361		100	17.13	34.99	25.50	253.0	.401
146	15.44	34.982	1.62				7.840	2.366		150	15.31	34.98	25.91	215.1	.519
197	14.02	34.945	0.98				7.760	2.366		200	13.97	34.94	26.17	191.4	.620
297	12.48	34.875	0.30				7.661	2.366		250	13.21	34.91	26.31	179.7	.712
397	9.14	34.700	0.13				7.549	2.378		300	12.38	34.87	26.44	164.2	.793
595	6.88	34.611	0.35				7.521	2.389		400	9.08	34.70	26.89	125.5	.945
796	5.58	34.587	0.94				7.544	2.409		500	7.54	34.63	27.07	104.2	1.063
995	4.82	34.586	1.20				7.557	2.429		600	6.84	34.61	27.16	101.4	1.144
1193	3.96	34.507	1.48				7.572	2.447		700	6.11	34.59	27.24	93.6	1.245
1207*	3.98	34.598	1.40				7.577	2.445		800	5.56	34.59	27.31	87.8	1.354
1492	3.11	34.630	1.80				7.590	2.464		1000	4.79	34.59	27.40	80.0	1.524
1507*	3.14	34.626	1.73				7.598	2.470		1200	3.97	34.60	27.50	70.3	1.674
1806*	2.57	34.648	2.06				7.629	2.484		1500	3.13	34.63	27.60	60.1	1.869
3824*		34.683		2.80	2.80		7.674	2.504	17.9	2000	2.34	34.65	27.69	51.8	2.149
3827*		34.676		2.76	2.84		7.682	2.502	17.9	2500	2.09	34.66	27.72	50.8	2.405
3829*		34.678		2.77	2.81		7.680	2.500	17.8	3000	2.03	34.67	27.73	51.2	2.660
3830*		34.676		2.79	2.84		7.680	2.501	18.0						

YTP114 04 43.0 N 079 45.5 W DATE 25 MAR 69 0945 OCT WIRE 04 DRY 80.5 WET 78.5 CRUISE YALSCA9
WIND DIRECTION 26 VEL 05 KTS BAR 08 SWELL DIRECTION 13 M 01 T 10 CLCUD 6 AMT 4 WEATHER 02

0	27.40	32.798	4.83				8.262	2.232		0	27.40	32.80	20.96	483.2	0
10	26.67	33.001	4.82				8.250	2.250		10	26.67	33.01	21.35	446.7	.046
20	19.10	34.494	1.99				7.910	2.343		20	19.10	34.50	24.64	332.4	.115
30	17.90	34.655	1.51				7.857	2.351		30	17.90	34.46	25.06	292.4	.147
49	16.48	34.910	1.50				7.837	2.368		50	16.41	34.92	25.61	240.9	.200
75	15.17	34.951	1.24				7.801	2.377		75	15.17	34.96	25.92	211.4	.257
99	14.88	34.561	1.26				7.803	2.377		100	14.85	34.96	26.00	205.4	.309
147	14.18	34.960	1.17				7.784	2.372		150	14.14	34.96	26.15	192.2	.408
197	13.52	34.928	0.70				7.730	2.355		200	13.48	34.93	26.26	182.8	.502
298	12.00	34.844	0.17				7.637	2.370		250	12.79	34.89	26.37	173.2	.591
398	9.65	34.712	0.11				7.561	2.377		300	11.95	34.85	26.50	162.0	.675
597	6.97	34.612	0.28				7.521	2.392		400	9.61	34.71	26.82	133.3	.822
796	5.70	34.590	0.74				7.530	2.406		500	8.03	34.64	27.01	114.5	.946
996	4.75	34.593	1.08				7.550	2.437		600	6.96	34.61	27.14	103.1	1.055
1158*	4.17	34.597	1.26				7.557	2.441		700	6.22	34.59	27.23	95.0	1.154
1195	4.04	34.602	1.40				7.570	2.450		800	5.64	34.59	27.30	89.1	1.246
1457*	3.17	34.624	1.73				7.593	2.477		1000	4.73	34.59	27.41	78.9	1.414
1495	3.14	34.629	1.75				7.598	2.471		1200	4.02	34.60	27.50	70.7	1.563
1755*	2.75	34.641	1.99				7.615	2.497		1500	3.13	34.63	27.60	60.2	1.759
2053*	2.32	34.656	2.20				7.634	2.507		2000	2.39	34.65	27.69	52.2	2.040
2352*	2.13	34.671	2.36				7.651	2.505		2500	2.11	34.67	27.71	50.3	2.296
2551*	2.11	34.671	2.46				7.658	2.509		3000	2.00	34.67	27.74	50.3	2.548
2749*	2.06	34.671	2.52				7.660	2.517							
2947*	1.99	34.674	2.58				7.672	2.504	151						
3197*	2.02	34.675	2.64			2.77	7.672	2.522							
3291*	1.99	34.676	2.63			2.60	7.672	2.512	152						
3304*	2.02	34.675	2.62			2.58	7.663	2.504	151						
3315*		34.676				2.61	7.661	2.512	152						
3318*		34.674				2.60	7.661	2.514	152						
3320*		34.680				2.60	7.661	2.514	153						
3321*		34.676				2.62	7.665	2.514	153						

OBSERVED										INTERPOLATED					DERIVED		
D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$		
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn/cm)		
YPS115 10 27.5 N 099 56.5 W DATE 03 APR 69 07:00 ACT WIRE 00 DRY 80.0 WET 79.2 CRUISE YALCC60																	
WIND DIRECTION 08 VEL 05 KTS BAR 09 SWELL DIRECTION 07 H 04 T 07 CLOUD 0 AMT 3 WEATHER 02																	
0	26.47	34.371	4.62				8.200	2.324		0	26.48	34.38	22.44	441.7	0		
10	26.48	34.369	4.49				8.195	2.335		10	26.48	34.37	22.44	442.5	.044		
20	26.29	34.358	4.53				8.199	2.324		20	26.29	34.36	22.49	437.9	.104		
30	26.04	34.313	4.23				8.190	2.321		30	26.04	34.32	22.53	434.1	.152		
49	17.09	34.744	1.72				7.810	2.354		50	16.85	34.75	25.34	262.4	.241		
74	14.09	34.781	0.75				7.684	2.354		75	14.04	34.79	26.04	200.9	.299		
98	13.57	34.895	0.64				7.672	2.363		100	13.54	34.89	26.22	183.6	.347		
147	13.07	34.890	0.53				7.651	2.367		150	13.04	34.89	26.32	175.4	.437		
197	12.51	34.851	0.60				7.634	2.357		200	12.48	34.85	26.40	169.0	.521		
298	11.45	34.791	0.30				7.585	2.367		250	11.98	34.82	26.44	163.0	.604		
398	9.95	34.708	0.13				7.513	2.375		300	11.42	34.79	26.56	155.3	.644		
598	7.13	34.596	0.11				7.463	2.398		400	9.92	34.71	26.74	134.4	.834		
798	5.65	34.576	0.21				7.452	2.405		500	8.41	34.64	26.95	120.4	.943		
997	4.67	34.575	0.56				7.457	2.431		600	7.11	34.60	27.11	106.4	1.076		
1162*	4.03	34.584	0.70				7.509	2.443		700	6.76	34.58	27.21	96.7	1.174		
1197	3.94	34.589	0.74				7.472	2.443		800	5.64	34.58	27.29	89.6	1.271		
1460*	3.15	34.613	1.32				7.554	2.471		1000	4.66	34.58	27.40	79.2	1.440		
1498	3.09	34.617	1.45				7.525	2.464		1200	3.93	34.59	27.49	70.4	1.589		
1759*	2.56	34.637	1.75				7.590	2.485		1500	3.09	34.62	27.60	60.4	1.746		
2057*	2.77	34.652	2.26				7.631	2.497		2000	2.31	34.65	27.69	51.4	2.066		
2354*	1.97	34.667	2.40				7.644	2.497		2500	1.89	34.67	27.74	47.5	2.313		
2653*	1.85	34.672	2.68				7.661	2.507		3000	1.86	34.67	27.75	46.3	2.552		
2953*	1.85	34.675	2.72				7.672	2.502									
3251*	1.90	34.674	2.74				7.677	2.505									
3549*	1.89	34.679	2.77			2.84	7.677	2.505	18.7	152							
3748*	1.92	34.677	2.77			2.80	7.675	2.507	18.8	151							
3818*	1.93	34.677	2.77	2.72	2.78	7.675	2.502	10.6	152								
3832*	1.91	34.678	2.81	2.73	2.74	7.677	2.507	18.4	153								
3941*		34.673		2.79	2.85	7.672	2.501	18.3	154								
3844*		34.675		2.80	2.86	7.673	2.501	18.6	151								
3846*		34.676		2.83	2.86	7.672	2.501	18.6	153								
3847*		34.676		2.79	2.87	7.672	2.507	18.3	153								
YPS116 12 32.2 N 094 17.7 W DATE 05 APR 69 0322 ACT WIRE DRY 81.9 WET 80.6 CRUISE YALCC60																	
WIND DIRECTION 29 VEL 04 KTS BAR 12 SWELL DIRECTION 08 H 02 T 06 CLOUD 3 AMT 2 WEATHER 02																	
0	27.39	34.222	5.58				8.270	2.344		0	27.40	34.23	22.04	550.4	0		
10	26.06	34.208	5.24				8.245	2.351		10	26.06	34.21	22.45	541.5	.055		
20	25.90	34.204	4.72				8.212	2.333		20	25.90	34.21	22.49	437.4	.110		
30	24.93	34.226	3.97				8.156	2.324		30	24.94	34.23	22.81	507.8	.162		
49	14.77	34.794	0.10				7.653	2.374		50	14.56	34.80	25.94	209.5	.234		
74	13.17	34.832	0.10				7.631	2.366		75	13.15	34.83	26.26	179.9	.283		
98	12.93	34.804	0.10				7.617	2.363		100	12.89	34.81	26.29	177.4	.327		
147	11.93	34.790	0.19				7.617	2.365		150	11.89	34.79	26.47	161.2	.412		
197	11.36	34.770	0.19				7.591	2.370		200	11.43	34.77	26.56	153.4	.491		
298	10.41	34.714	0.10				7.554	2.383		250	10.86	34.74	26.63	148.5	.566		
397	9.19	34.644	0.11				7.516	2.387		300	10.39	34.72	26.69	143.5	.639		
596	6.99	34.583	0.09				7.482	2.409		400	9.15	34.65	26.84	130.4	.776		
796	5.58	34.561	0.10				7.462	2.420		500	7.98	34.61	26.99	116.4	.999		
994	4.61	34.569	0.29				7.463	2.434		600	6.96	34.58	27.12	105.1	1.010		
1184*	3.68	34.587	0.80				7.510	2.455		700	6.18	34.57	27.21	96.5	1.111		
1193	3.73	34.591	0.81				7.498	2.461		800	5.56	34.56	27.29	89.7	1.204		
1483*	2.97	34.614	1.36				7.552	2.467		1000	4.55	34.57	27.41	78.1	1.372		
1493	2.97	34.614	1.38				7.537	2.466		1200	3.71	34.57	27.52	67.6	1.514		
1782*	2.48	34.635	1.91				7.597	2.487		1500	2.96	34.61	27.61	59.7	1.704		
2080*	2.15	34.652	2.24				7.629	2.500		2000	2.22	34.65	27.70	50.6	1.942		
2379*	1.93	34.644	2.56				7.655	2.507		2500	1.88	34.67	27.74	47.5	2.227		
2676*	1.85	34.649	2.72				7.668	2.504		3000	1.86	34.67	27.74	46.4	2.467		
2975*	1.86	34.670	2.76				7.673	2.501		4000	1.89	34.67	27.75	51.4	2.969		
3272*	1.91	34.670	2.79				7.677	2.500									
3571*	1.89	34.671	2.82			2.72	7.680	2.501	18.9	149							
3869*	1.94	34.670	2.89			2.72	7.682	2.501	17.8	152							
3969*	1.95	34.672	2.91	2.80	2.44	7.684	2.511	18.8	149								
3984*	1.92	34.671	2.91	2.80	2.48	7.684	2.500	14.8	150								
3992*		34.671		2.83	2.40	7.682	2.494	14.5	150								
3995*		34.669		2.87	2.72	7.684	2.494	14.5	151								
3997*		34.670		2.83	2.40	7.682	2.494	18.4	150								
3998*		34.671		2.85	2.49	7.687	2.504	18.3	150								

OBSERVED

INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^3$)	(dyn)
YPS119 12 50.4 N 107 55.8 W DATE 11 APR 69 0758 ACT WIRE 02 DRY 81.0 WET 79.5 CRUISE YALCC69															
WIND DIRECTION 01 VEL 14 KTS BAR 12 SWELL DIRECTION 31 H 04 T 14 CLCUD 8 AMT 1 WEATHER 02															
0	28.76	34.112	4.69				8.289	2.313		0	28.76	34.12	21.51	431.2	0
10	28.76	34.111	4.68				8.291	2.312		10	28.76	34.12	21.51	431.7	.003
20	28.76	34.110	4.67				8.291	2.304		20	28.76	34.12	21.50	432.1	.126
30	28.64	34.074	4.67				8.289	2.302		30	28.65	34.08	21.52	431.3	.189
49	26.23	33.984	4.50				8.229	2.302		50	25.87	34.00	22.35	552.2	.304
75	16.84	34.581	0.81				7.745	2.339		75	16.84	34.59	25.24	275.2	.411
98	14.40	34.754	0.09				7.643	2.347		100	14.26	34.76	25.97	207.8	.472
147	12.38	34.810	0.23				7.637	2.357		150	12.32	34.81	26.40	167.8	.505
197	11.82	34.794	0.23				7.610	2.361		200	11.79	34.79	26.49	160.3	.607
294	10.73	34.740	0.15				7.564	2.365		250	11.24	34.77	26.57	153.5	.726
397	9.69		0.09				7.530	2.377		300	10.71	34.74	26.65	147.4	.801
597	7.20	34.580	0.10				7.491	2.392		400	9.65	34.68	26.74	134.4	.903
796	5.66	34.568	0.09				7.475	2.415		500	8.78	34.42	26.95	121.2	1.072
995	4.60	34.573	0.34				7.475	2.431		600	7.17	34.56	27.09	108.5	1.107
1195	4.04	34.588	0.67				7.491	2.452		700	6.31	34.57	27.20	98.3	1.200
1201*	3.92	34.587	0.73				7.504	2.440		800	5.63	34.57	27.28	90.2	1.304
1495	3.13	34.617	1.21				7.530	2.465		1000	4.59	34.57	27.41	78.4	1.502
1504*	3.15	34.614	1.20				7.537	2.465		1200	3.94	34.59	27.49	70.8	1.702
1799*	2.56	34.641	1.83				7.585	2.485		1500	3.14	34.62	27.59	61.2	1.899
2094*	2.16	34.662	2.26				7.620	2.483		2000	2.27	34.66	27.70	50.4	2.179
2394*	1.94	34.675	2.53				7.644	2.489		2500	1.91	34.68	27.75	47.3	2.423
2695*	1.88		2.70				7.654	2.493		3000	1.75	34.68	27.76	46.4	2.657
2993*	1.75		2.90				7.670	2.497							
3292*	1.70		3.10				7.684	2.497							
2590*	1.43		3.17		2.45	7.690	2.491	12.9	154						
3705*	1.65		3.19		2.70	7.689	2.494	16.6	159						
3775*	1.67		3.17	3.12	2.66	7.690	2.494	18.4	160						
3792*	1.65		3.19	3.11	2.77	7.689	2.497	12.0	154						
3805*		34.689		3.08	2.46	7.687	2.489	18.4	153						
3806*		34.687		3.12	2.78	7.690	2.487	18.3	154						
3811*		34.687		3.15	2.66	7.692	2.491	18.3	156						

YPS120 21 08.8 N 112 27.4 W DATE 15 APR 69 2151 ACT WIRE 05 DRY 68.0 WET 61.9 CRUISE YALCC69															
WIND DIRECTION 33 VEL 12 KTS BAR 15 SWELL DIRECTION 12 H 05 T 10 CLCUD 6 AMT 6 WEATHER 02															
0	21.18	34.526	5.25				8.200	2.344		0	21.19	34.53	24.11	382.1	0
10	21.12	34.532	5.26				8.200	2.344		10	21.13	34.54	24.13	380.4	.038
20	20.20	34.409	5.41				8.183	2.344		20	20.21	34.41	24.29	366.2	.075
30	19.65	34.363	5.36				8.170	2.338		30	19.65	34.37	24.39	356.1	.112
49	18.50	34.204	5.13				8.129	2.326		50	18.42	34.20	24.54	339.3	.181
74	16.31	34.090	4.47				7.934	2.312		75	16.21	34.10	25.03	296.9	.261
98	14.21	34.286	1.81				7.742	2.315		100	14.09	34.30	25.65	238.0	.327
146	12.37	34.559	0.68				7.614	2.336		150	12.30	34.57	26.22	184.6	.433
197	11.71	34.668	0.25				7.574	2.344		200	11.66	34.67	26.42	167.0	.521
297	9.93	34.575	0.23				7.527	2.351		250	10.76	34.64	26.56	154.3	.601
396	8.95	34.534	0.19				7.499	2.359		300	9.90	34.67	26.66	145.7	.676
595	6.51	34.492	0.15				7.467	2.386		400	8.90	34.53	26.79	134.8	.816
795	5.42	34.510	0.19				7.455	2.409		500	7.43	34.50	26.94	118.0	.943
992	4.35	34.533	0.42				7.460	2.424		600	6.47	34.48	27.11	105.8	1.056
1127*	3.93	34.553	0.63				7.492	2.433		700	5.85	34.49	27.20	97.4	1.157
1192	3.40	34.569	0.71				7.475	2.434		800	5.19	34.51	27.27	91.2	1.252
1444*	3.14	34.598	1.13				7.528	2.455		1000	4.32	34.53	27.41	78.0	1.421
1491	3.05	34.603	1.20				7.513	2.460		1200	3.78	34.57	27.49	70.1	1.569
1742*	2.54	34.624	1.64				7.566	2.467		1500	3.03	34.40	27.59	60.7	1.765
2040*	2.17	34.645	2.13				7.607	2.474		2000	2.21	34.44	27.70	50.8	2.043
2338*	1.95	34.659	2.38				7.627	2.487		2500	1.47	34.47	27.74	47.5	2.289
2634*	1.81	34.670	2.62				7.651	2.487		3000	1.67	34.48	27.77	45.6	2.521
2934*	1.68	34.674	2.86				7.665	2.492							
3231*	1.67	34.681	2.93		2.86	7.677	2.494	18.0	169						
3574*	1.62	34.681	3.02		2.74	7.677	2.494	18.6	169						
3584*	1.63		3.02	2.96											
3648*	1.67	34.682	3.02	2.95	2.40	7.677	2.494	18.3	169						
3663*	1.60	34.682	3.02	2.95	2.74	7.674	2.494	18.4	171						
3674*		34.682		2.93	2.47	7.675	2.492	18.5	169						
3677*		34.681		2.87	2.79	7.677	2.494	18.5	169						
3679*		34.682		2.93	2.40	7.674	2.494	18.3	169						
3680*		34.681		2.89	2.40	7.660	2.504	18.1	169						

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INTERPOLATED

DERIVED

D	T	S	O ₂	O ₂	PO ₄	pH	Alk.	NO ₃	SiO ₂	Z	T	S	σ_t	δ	$\Delta\sigma$
(m)	(°C)	(‰)	(ml/l)	(ml/l)	(μ M)		(meq/l)	(μ M)	(μ M)	(m)	(°C)	(‰)		($\times 10^{-5}$)	(dyn/cm)
YSN125 33 43.0 N 119 50.0 W DATE 22 APR 69 2019 RCT WIRE 08 DRY 63.2 WET 57.0 CRUISE YALCC49															
WIND DIRECTION VEL 00 KTS BAR 17 SWELL DIRECTION 29 M 02 T 12 CLUD 4 AMT 5 WEATHER 01															
0	13.63	33.569	4.79		0.73	8.024	2.304			0	13.43	33.57	25.19	279.4	
10	13.13	33.568	4.75		0.75	8.031	2.307			10	13.13	33.57	25.29	270.5	.024
20	12.63	33.573	4.61		0.87	8.004	2.304			20	12.63	33.58	25.39	260.9	.044
30	12.17	33.591	4.66		0.98	7.972	2.302			30	12.17	33.60	25.49	251.4	.063
40	10.35	33.797	4.42		1.62	7.794	2.294			40	10.31	33.60	25.99	204.1	.124
75	9.84	33.954	2.76		1.86	7.733	2.315			75	9.84	33.96	26.19	185.3	.174
99	9.61	34.041	2.44		2.02	7.704	2.323			100	9.60	34.04	26.31	172.9	.214
124	9.31	34.144	2.18		2.21	7.677	2.330			150	8.88	34.19	26.53	154.7	.301
148	8.90	34.189	1.84		2.32	7.639	2.341			200	8.35	34.24	26.65	144.3	.375
173	8.72	34.214	1.67	1.62	2.32	7.614	2.339								
199	8.36	34.235	1.46	1.40	2.47	7.584	2.345								
205		34.235		1.45	2.49	7.594	2.344								
206		34.236		1.46	2.46	7.597	2.345								
YSN126 33 42.9 N 119 52.6 W DATE 22 APR 69 2213 RCT WIRE 08 DRY 62.5 WET 54.8 CRUISE YALCC49															
WIND DIRECTION VEL 00 KTS BAR SWELL DIRECTION 27 M 02 T 12 CLUD 3 AMT 3 WEATHER 01															
0	13.36	33.573	4.86		0.84	8.024	2.307			0	13.36	33.58	25.24	274.3	
9	13.01	33.573	4.85		0.98	8.024	2.299			10	12.97	33.57	25.32	267.4	.027
19	12.59	33.583	4.83		0.98	7.997	2.304			20	12.54	33.59	25.41	258.6	.053
29	12.01	33.613	4.66		1.13	7.950	2.307			30	11.74	33.62	25.55	245.5	.079
49	10.70	33.738	3.84		1.66	7.832	2.307			50	10.66	33.74	25.84	214.5	.125
74	10.11	33.875	3.10		1.94	7.765	2.315			75	10.09	33.84	26.09	195.3	.174
108	9.49	34.109	2.27	2.24	2.22	7.689	2.329			100	9.64	34.06	26.30	175.4	.222
129	9.00	34.175	1.92	1.89	2.43	7.644	2.341								
133		34.183		1.85	2.49	7.644	2.335								
135		34.179		1.86	2.38	7.651	2.334								
136		34.179			2.46	7.646	2.334								
YSN127 38 00.2 N 124 45.0 W DATE 24 APR 69 1046 RCT WIRE 02 DRY 49.8 WET 46.5 CRUISE YALCC49															
WIND DIRECTION 30 VEL 14 KTS BAR 20 SWELL DIRECTION 27 M 06 T 07 CLUD 8 AMT 2 WEATHER 02															
0	11.91	32.910	6.40			8.087	2.269			0	11.91	32.92	25.01	296.2	
10	11.89	32.910	6.38			8.089	2.269			10	11.89	32.92	25.02	296.1	.033
20	11.92	32.911	6.39			8.088	2.264			20	11.92	32.92	25.01	295.7	.059
30	11.91	32.914	6.38			8.081	2.266			30	11.91	32.92	25.02	294.2	.089
49	10.03	33.262	4.61			7.854	2.274			50	9.99	33.28	25.64	237.7	.142
75	9.65	33.677	3.61			7.757	2.297			75	9.65	33.68	26.01	203.1	.167
98	9.22	33.823	3.12			7.719	2.309			100	9.18	33.83	26.20	185.0	.244
147	8.35	33.977	2.84			7.692	2.321			150	8.30	33.98	26.44	161.5	.332
197	7.60	34.018	2.55			7.649	2.327			200	7.47	34.02	26.59	149.0	.413
298	6.80	34.085	1.72			7.557	2.350			250	7.12	34.05	26.64	141.0	.483
398	5.97	34.145	1.01			7.484	2.367			300	6.78	34.09	26.74	134.9	.551
597	4.93	34.275	0.36			7.436	2.399			400	5.96	34.15	26.91	121.2	.619
797	4.41	34.393	0.29			7.443	2.422			500	5.15	34.21	27.04	109.4	.796
956	3.88	34.455	0.45			7.464	2.437			600	4.92	34.28	27.14	100.4	.903
996	3.81	34.459	0.51			7.457	2.441			700	4.64	34.34	27.22	93.5	.997
1155	3.34	34.503	0.67			7.477	2.452			800	4.40	34.39	27.29	87.3	1.047
1196	3.35	34.509	0.74			7.474	2.454			1000	3.40	34.46	27.40	77.2	1.252
1451	2.78	34.544	0.96			7.494	2.471			1200	3.14	34.51	27.49	69.4	1.394
1752	2.27	34.599	1.36			7.524	2.485			1500	2.49	34.55	27.58	40.4	1.543
2051	2.04	34.624	1.74			7.566	2.494			2000	2.07	34.62	27.69	50.4	1.877
2350	1.82	34.644	2.11			7.600	2.499			2500	1.74	34.65	27.74	47.0	2.115
2648	1.75	34.662	2.43			7.627	2.508			3000	1.65	34.67	27.76	45.6	2.346
2947	1.65	34.670	2.65			7.644	2.505								
3244	1.63	34.678	2.82			7.653	2.507								
3545	1.53	34.685	3.01		2.46	7.670	2.505	18.8	177						
3843	1.51	34.692	3.21		2.63	7.687	2.514	15.9	176						
3913	1.51	34.693	3.22	3.20	2.65	7.690	2.505	16.4	174						
3928	1.49	34.692	3.21	3.19	2.66	7.680	2.507	17.7	173						
3934		34.692		3.19	2.74	7.687	2.502	17.8	173						
3941		34.692		3.17	2.72	7.690	2.502	18.0	173						
3943		34.692			2.66	7.687	2.511	17.5	173						
3944		34.692		3.19	2.80	7.699	2.505	17.6	173						

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13. ABSTRACT Salinity, temperature, oxygen, phosphate, and nitrate observations were taken by Oregon State University on 16 hydrographic cruises in the Northeastern Pacific Ocean during 1969. Alkalinity, pH and silicate were taken on special occasions. Nine cruises were taken along the Newport line. The rest were special cruises made off Depoe Bay, Oregon, in the Columbia River plume, and off Peru. (

KEY WORDS

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LINK C

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